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GEELONG NATURALIST

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GEELONG

NATURALIST

JOURNAL OF THE GEELONG FIELD NATURALISTS' CLUB

Hon. Editor,
Margaret Cameron
32 Cuthbertson Drive,
Ocean Grove, 3226.

Vol. 17 no. 1.

MAY 1980

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EDITORIAL

Under Trevor Pescott's editorship, the *Geelong Naturalist* has made a significant contribution to natural history in Australia, not merely in Geelong: having just read most of the last ten years' issues, I salute his achievement! As your new Editor, I hope the journal will continue to be as interesting and informative, and I see no reason for any major changes in editorial policy.

The objects of the Geelong Field Naturalists' Club are to stimulate interest in natural history and to preserve and protect flora and fauna.

Interest is best stimulated by knowledge: "the desire of knowledge, like the thirst for riches, increases ever with the acquisition of it" (Sterne). The *Geelong Naturalist* is one of the means by which we share our knowledge, through such articles as Stan Rowe's on the geology of the Dog Rocks and of Batesford, and Dave King's on the crab spider, in this issue. Conservation, too, must be based on knowledge: there will be no hope of saving the Orange-bellied Parrot without full knowledge of its requirements for survival.

The *Geelong Naturalist* is also our permanent record of club activities and excursions, and the Club's means of communication with those members who cannot come to meetings. An important aspect of a club like ours is the opportunity to learn about and enjoy our fellow members' experiences, and the *Naturalist* has often published fascinating "traveller's tales": it is my hope that it will continue to do so.

The most important function of the *Geelong Naturalist*, however, is the reporting and recording of the natural history of the Geelong area. Unusual records, like Graeme Tribe's account of the Gang-gang cockatoos in Ocean Grove, must be published or they may be forgotten: it has been said that "in science, if it's not published,

EDITORIAL (continued)

it didn't happen". It is equally important that apparently everyday phenomena be recorded. For example, Belcher thought it worth recording that the Plains-wanderer was "very often noted" in 1911 and 1912, chiefly about Lara; this is hard to imagine now! If the abundance of common birds is not recorded, and they subsequently become rare, it is often difficult to reconstruct the evidence of their decline. The Bustard, the Magpie Goose, the Bush Thick-knee (Stone-curlew): better documentation of their gradual decline may have resulted in better protection. Similarly, if we record now the numbers of Cattle Egrets and Common (Indian) Mynahs, and count the Silver Gulls nesting in the Cheetham Saltworks, we will have a documented basis against which to measure their later increase. The same principle applies to mammals, reptiles, insects, plants, and so on.

Every member of the Club can contribute to the on-going record of the flora and fauna of our district. The *Geelong Naturalist* is not a journal for Club members, it is the journal of the Club - your journal.

Margaret Cameron

GEOLOGY OF THE DOG ROCKS AND BATESFORD QUARRY

Stan Rowe

The Dog Rocks are an outcrop of Late Devonian (350 million years before present) granite approximately 2½ by 1 km. rising to just under 100m above sea level and about 70m above the top of the adjacent Batesford Limestone. The granite is coarse grained with porphyritic feldspars and is very similar to the You Yangs granite to which it is probably genetically related. It was emplaced in the molten state, originally at some kilometres below the surface and has since been exposed by uplift and erosion of the overlying rocks. Small patches of these overlying rocks survive; probably originally Cambrian (550 million years B.P.) basalts, they have been altered by the heat of the intrusion and metamorphosed to epidiorite ("greenstone"). Larger outcrops of the epidiorite occur at Gleeson's Hill and George's Hill, and this type of rock was widely used by the aborigines for the production of ground stone axes.

At the Dog Rocks the granite is prominently jointed, these joints controlling the shape of the sometimes prominent tors. Veins and dykes of the finer grained aplite occur and feldspar for enamelling was extracted many years ago from vughs of the coarser grained pegmatite in the bed of the Moorabool River.

On weathering the granite produces gravel and coarse granitic sand (unfortunately a target for exploitation) and a sandy soil on which the interesting plant community, now represented only by "Belcher's Bush", has developed and attracted its abundant avifauna. The sand and sandy soil provide ideal conditions for tunnel-nesting birds such as the Rainbow Bird and Pardalotes.

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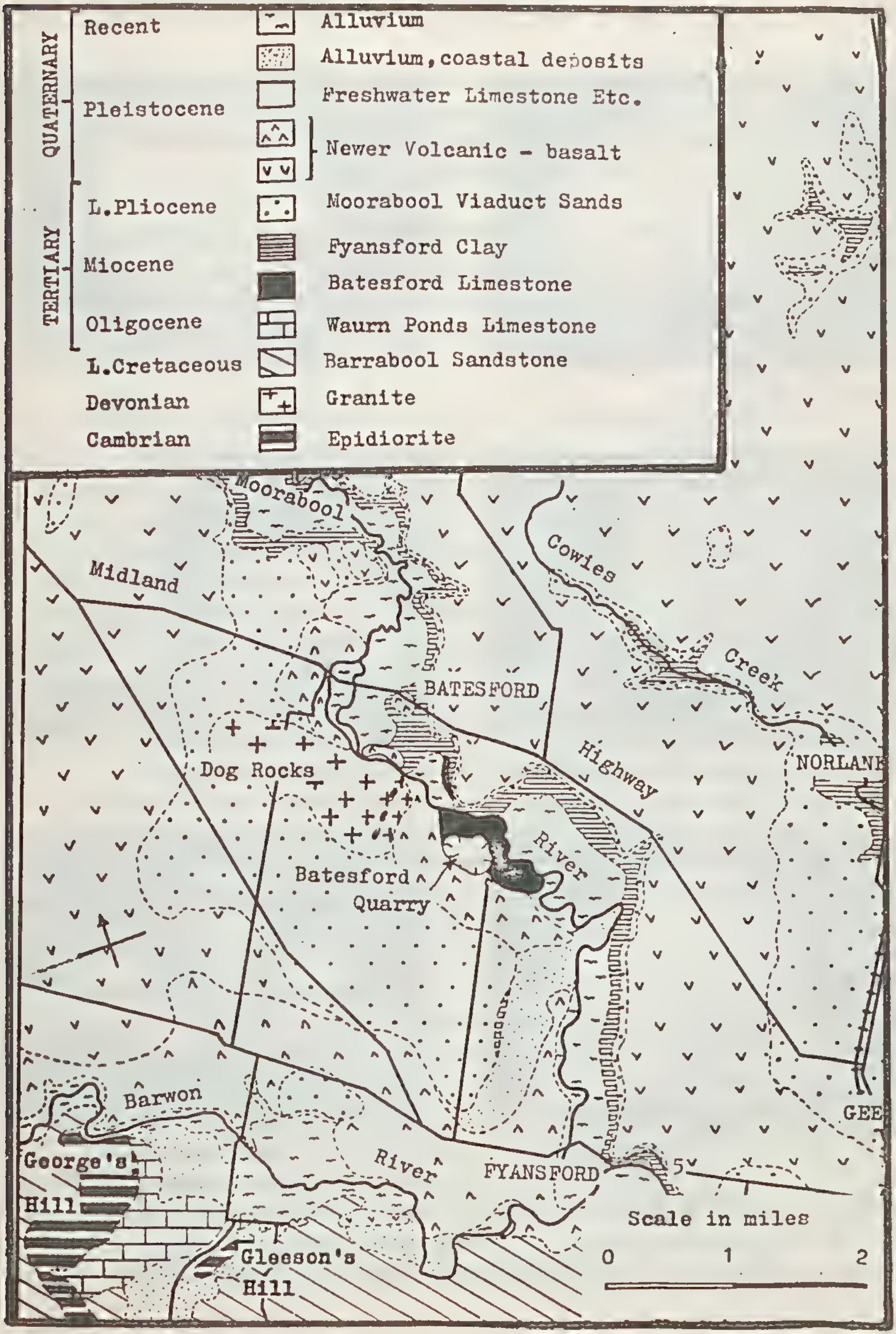
GEOLOGICAL MAP OF THE GEELONG DISTRICT



GEOLOGY OF THE DOG ROCKS AND BATESFORD QUARRY (continued)

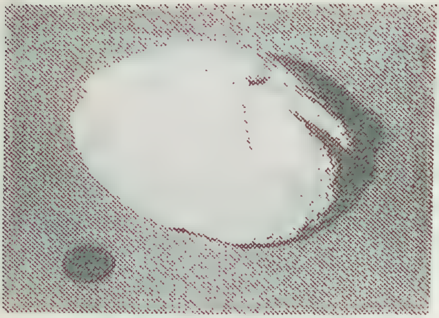
Apart from the topographic interest of the Dog Rocks and the botanical and ornithological interest of "Belcher's Bush", the Dog Rocks played a vital role in the formation of the Batesford Limestone.

This formation, the type locality of which is the Australian Portland Cement Limited Quarry at Batesford (an indication of its economic importance), is a very permeable skeletal limestone and grades vertically and laterally into the marly and clayey sediments of the Fyansford clay.

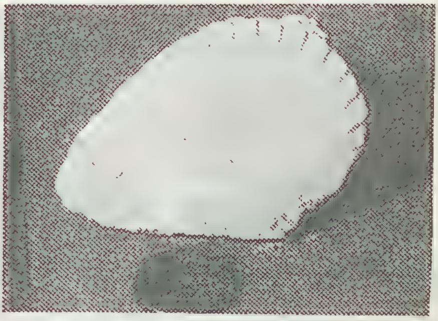
Two main lithologies can be recognised within the Batesford Limestone, a foraminiferal limestone composed of dominant larger foraminifera such as *Lepidocyclina* with subordinate bryozoa ("lace corals"), echinoid spines, calcareous algae, etc., and a bryozoal limestone composed largely of bryozoa but with some echinoid spines and plates, foraminifera and a few bivalve shells. Of the overall thickness of at least 70m the uppermost 10m could be described as bryozoal limestone, the next 15m as foraminiferal limestone with the balance again a bryozoal limestone without, however, the scattered *Lepidocyclina* which occur in the upper part. In the lower portions of the limestone the proportion of detrital minerals (quartz, feldspar and mica) from the granite increases and pebbles and rounded cobbles of granite are occasionally found.

To understand the formation of the Batesford Limestone we must consider the conditions at the time of its formation during the Early to Middle Miocene some 15 million years B.P.. At this time a warm (perhaps even tropical or semi-tropical) sea extended over and beyond this area. Within this sea the Dog Rocks formed an island, on the flanks of which the combination of hard granite bottom, shallow water, and warmer temperatures led to a vigorous growth of encrusting organisms, notably bryozoa ("lace corals") and coralline algae.

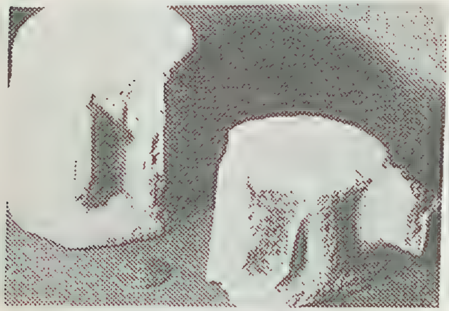
FOSSILS FROM THE BATESFORD LIMESTONE



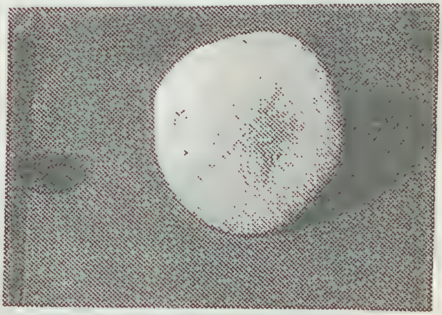
LINTHIA (spatangoid)



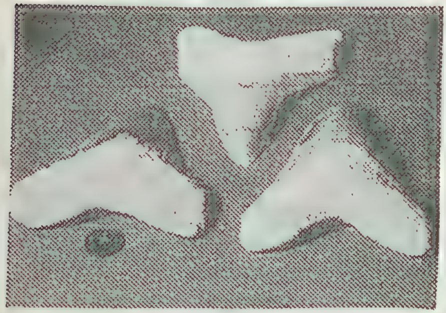
PECTEN (Scallop)



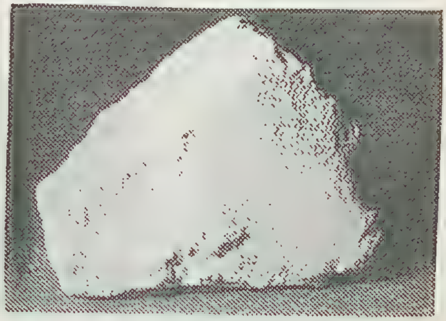
WHALE VERTEBRAE



CLYPEASTER GIPPSLANDICUS
(sand dollar echinoid)



SHARK'S TEETH
Front: Carcharodon megalodon
Rear: C. auriculata



RETEPORA
(Bryozoan)

(All coins 1¢, except Whale Vertebrae 50¢)

GEOLOGY OF THE DOG ROCKS AND BATESFORD QUARRY (continued)

This source of food, in turn, supported a population of grazing and boring animals, so that the bryozoa and coralline algae were being continually broken down by grazing echinoids ("sea urchins") and fish, boring algae and molluscs and, of course, wave action. This resulted in an abundant and continuous production of calcium carbonate sand which, aided by prevailing winds and currents, moved down the steep submarine slopes on the east and southeast of the Dog Rocks to build up the present Batesford Limestone. On the other sides of the island, as well as further away from it to the south and southeast, only limited amounts of finer carbonate were received and this, with the then relatively more abundant clay, produced the marly sediments to be seen at Orphanage Hill, Fyansford.

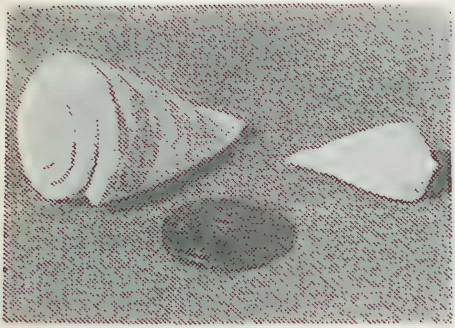
This concept of the formation of the Batesford Limestone as expounded by Foster (1970) explains the fossil content of the limestone, which comprises four main elements, -

(1) Material from the littoral zone of the island carried down with the sediment, predominantly fragments, occasionally partial or complete fossils. These include bryozoa ("lace corals"), coralline algae, crab's claws and spines, plates, and rarely complete tests of regular echinoids ("sea urchins") such as *Heliocidaris, Phyllacanthus, Zenoncentrotus* and *Strongl yocentrotus*.

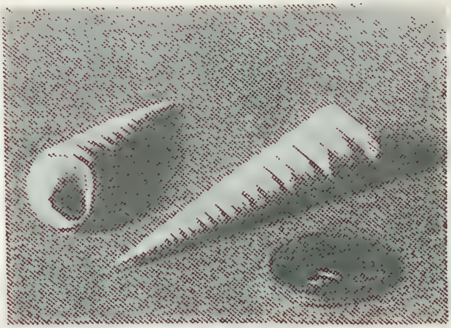
(2) Burrowers in the sand, notably the large, thin-tested, irregular echinoids of the spatangoid group including *Linthïa, Eupatagus* and *Pericosum*. Their very fragile tests are often found whole, although usually more or less crushed.

(3) Dwellers on the surface of the sand, eg. *Pecten* (the scallop).

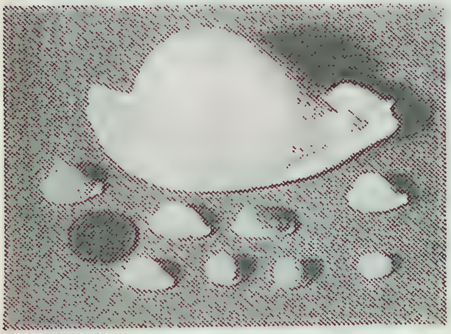
GASTROPODS FROM THE FYANSFORD CLAY



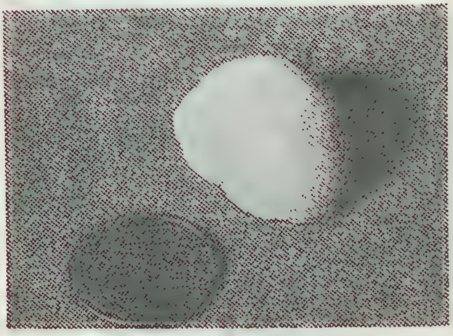
CONUS (cone shell)



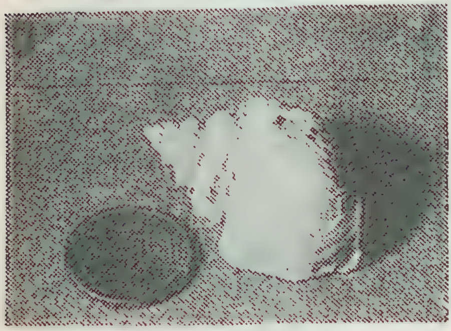
TURRITELLA



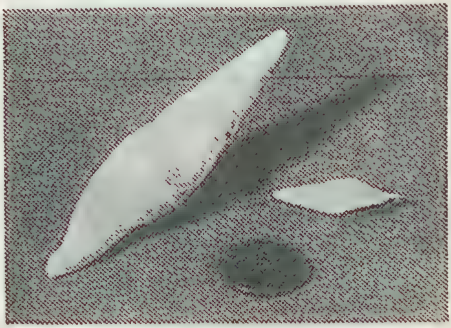
CYPRAEA and TRIVIA
(cowries)



NATICA
(whelk)



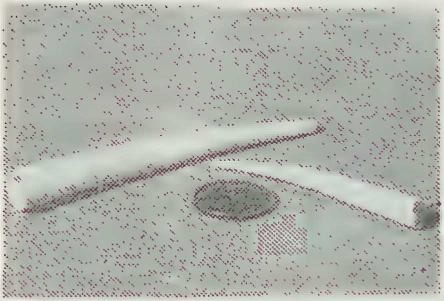
MORIO



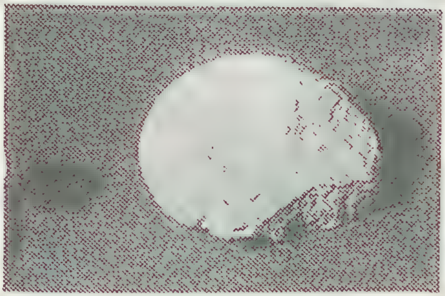
MITRA (mitre)

(All coins 1¢)

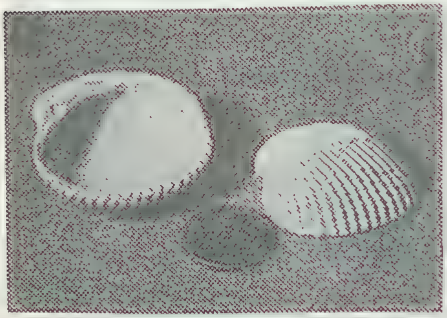
FOSSILS FROM THE FYANSFORD CLAY



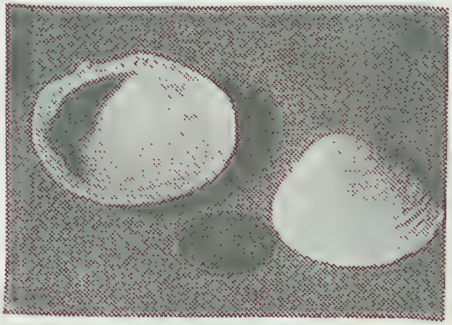
DENTALIUM
(tusk shell:scaphopod)



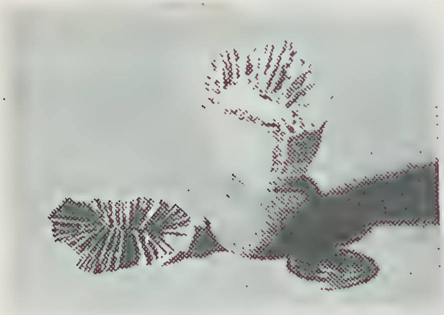
NAUTILUS
(pearly nautilus:cephalopod)



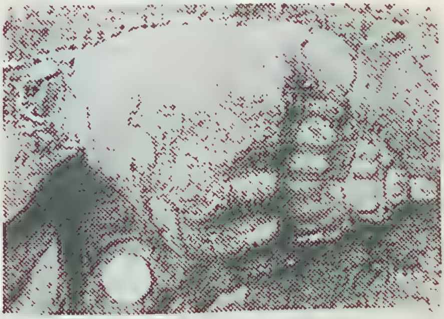
VENERICARDIA
(bivalve)



GLYCIMERIS
(bivalve)



PLACOTROCHUS
(solitary coral)



VOLUTA
(the volute, in the clay)

(All coins 1¢, except Voluta 6d)

GEOLOGY OF THE DOG ROCKS AND BATESFORD QUARRY (continued)

(4) Swimmers in the sea above, the most notable of which are the whales, whose remains are occasionally found, and the sharks of which the teeth alone are found, - some of these were probably shed teeth, others may represent all that remains of a dead shark; being, of course, their only hard part.

These shark's teeth, in particular, lure fossil hunters to the quarry, and many different types are found including *Lamna, Odontaspis* and *Carcharodon*, the real prize being a tooth of *C. megalodon* a (fortunately) extinct shark believed to have reached 20m.

Progressive deepening of the sea resulted in the complete submergence of the Dog Rocks with the resultant extinction of the shallow-water fauna and cessation of production of the carbonate sand. Widespread slow deposition of fine-grained sediment continued and this produced the Fyansford Clay overlying the Batesford Limestone. Some sandy limestones occur in the lower part of the Fyansford Clay but are not persistent and the clay shows slumping into caves in the limestone, producing folds higher in the sequence.

The fauna of the Fyansford Clay is quite different to that of the Batesford Limestone due to greater water depth and clayey bottom conditions. It contains abundant solitary corals, *Flabellum, Placotrochus*, etc., and a very varied molluscan fauna including the quite abundant scaphopod *Dentalium* ("tusk shell") and the rare cephalopod *Nautilus* ("pearly nautilus"). Several lamellibranchs (bivalves) occur including *Glycimeris* and *Venericardia* while the gastropods are probably the most varied group; they include *Turritella, Mure, Conus, Columbarium, Morio, Natica, Volutilithes,*

GEOLOGY OF THE DOG ROCKS AND BATESFORD QUARRY (continued)

the cowries *Cypraea* and *Trivia*, etc., with the prize specimen being, probably, the rare, usually fractured *Voluta* (volute).

To the north of the APCL Quarry, as well as elsewhere in the district, the Fyansford Clay is overlain by the Pliocene (6 million years B.P.) Moorabool Viaduct Sands, but in the quarry itself they were eroded away and basalts of the low level flow of the Moorabool River valley rest directly on the Miocene sediments.

These basalts belonging to the widespread Newer Volcanic flows, and here, probably about 2 million years old, are well exposed on the western side of the quarry. In their lower portion they show the tumbled pillow structure typical of flow into water, whilst the upper portion shows the columnar structure characteristic of subaerial cooling. Vesicles (gas bubble holes) in the basalt often contain beautiful radiating crystals of aragonite, a form of calcium carbonate, and this attracts the mineral collector to the quarry as well as the fossil hunter.

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(to which grateful acknowledgement is made)

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GEOLOGY OF THE DOG ROCKS AND BATESFORD QUARRY (continued)

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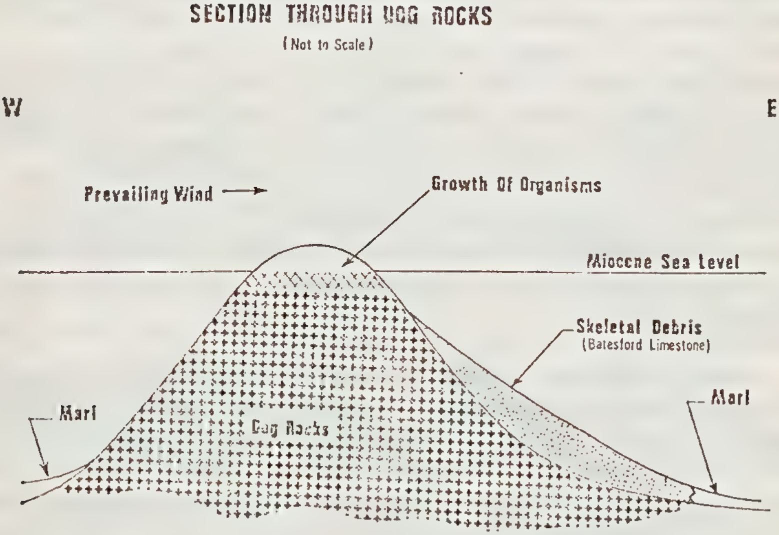
S.E. Rowe, School of Sciences, Deakin University,
Victoria, 3217.



(After Foster (1970))

GANG-GANG COCKATOOS AT OCEAN GROVE

Graeme Tribe

During the recent extremely hot and dry Autumn, many unusual bird movements were observed, amongst which were large numbers of Gang-gangs (*Callocephalon Fimbriatum*) to the Geelong district.

A group of twelve arrived in Ocean Grove about 20 March 1980 and are still here on 13 May 1980. Most of them appear to be juveniles almost in full colour, with some older birds with gnarled beaks. Early each morning they congregate on a plantation of sugar gums along 1 km. of Tuckfield Street to feed on the fruit.

On first arriving, they fed high in the tree tops but as time went by any branch would do, right down to traffic level, as they fed hungrily on the oldest to the youngest fruit. The feeding method is fascinating. The beak is used to nip off a group of up to six gum nuts; the highest foot on the branch immediately clasps the base of these as the beak rips open each nut in turn. As soon as the empties are dropped the action is repeated. The noisiest part of the operation is at ground level with the constant plopping of empty gum nuts.

Mrs. Jones of Powell Street, Ocean Grove, has won their confidence to the point where many will feed and bathe around a feeder, and some take food from her hand.

A local Naturalist, Doug McKenzie, has recorded ten Gang-gangs feeding with Galahs in Ocean Grove, on two occasions, 12 April 1970 and 9 May 1970 (i.e. for a month ten years ago). At that time Galahs were new to the district but they have become quite common. I hope the Gang-gangs will choose to stay too.

Graeme Tribe, 97 Madeley Street, Ocean Grove,
3226.

PRESIDENT'S REPORT FOR 1979-1980

D.F. King

I would like to acknowledge with gratitude the help and support I have received during the past year as your President, in particular from those members who form your Committee. They continue to perform the many tasks placed before them that are vital to the efficient running of our Club. In particular, I would like to thank those Committee members whose office places a constant and, sometimes, a heavy burden upon their time and energy. They are Valda Dedman, our Secretary, Jack Ealey, our Treasurer and Trevor Pescott, our Editor. To our Editor, who is retiring from that position, a special 'thank-you' for a magnificent effort carried out from the inception of the *Geelong Naturalist*, a total of 68 issues spanning 17 years.

To those members who have taken on the task of Excursion Leaders my thanks and appreciation, particularly when, as sometimes happens due to unavoidable circumstances, they are given relatively short notice. The success of these excursions is ensured by the amount of research and planning that goes into their preparation.

Special mention must be made of Jack Wheeler, who after having served in various capacities on your Committee since the inauguration of this Club in 1962, is to retire from the Committee. I am sure every member of this Club will endorse the appreciation for all those years during which so much dedicated effort has been freely given by Jack, who is certain to take a continued keen interest in our progress. In addition, I know he will be only too willing to place at our disposal his very great knowledge and expertise whenever called upon.

Again this year a successful Fete was organized. This success is due in no small measure to the generosity of Mrs. Beryl Campbell in permitting her home and garden

PRESIDENT'S REPORT FOR 1979-1980 (continued)

to be used as the venue. Sincere thanks to Mrs. Campbell and to all the many people who help in so many ways, from manning stalls to providing items for sale.

This year commenced with a change in venue for our General Meetings. After having used the McPhillimy Hall for a number of years we made the move to St. David's Hall. A number of advantages accrue from the move. We have more freedom of access into the Hall outside normal meeting times, improved lighting and access to power points, and not the least perhaps, ample car parking facilities. The new venue did highlight the shortcomings of the P.A. System but due to the generous monetary gifts made by some of our members we have been able to purchase a new P.A. System that is proving to be a great improvement.

Due to the magnificent efforts by the ladies who have organized, manned and generally provided items for sale on the work stall, a regular feature of our Meetings, we have been able to purchase new library facilities in the form of steel cabinets. This has provided a much needed feature of easy access to what has become a substantial and valuable collection over the years, and, at the same time, ensuring adequate protection.

Our membership is still being maintained in the order of 500 members and our financial position, although not exceptional, is seen to be adequate for all our foreseeable needs. Our single main cost burden remains the production of the *Geelong Naturalist* which, like most things at the present time, is subject to the inflationary spiral.

Attendances at General Meetings have remained reassuringly high throughout the year and your Committee has been encouraged by this in their endeavour to maintain, if not increase, the quality and diversity in

PRESIDENT'S REPORT FOR 1979-1980 (continued)

speakers and their subjects. Unfortunately, this is not so in the case of Junior Member Meetings. Attendances have been very poor throughout the year and the situation is cause for concern. There appears to be a general reluctance amongst members when asked to provide the juniors with a short talk on a subject in which they have a particular interest. I feel we all have an obligation to pass on to the young the knowledge and expertise we have gained over the years and, after all, this is really what this Club is all about.

The Intermediate Group of members has had a number of excursions during the year, although, of late, their activity appears to have lagged. This may, in part, be due to pressure of study and exams. Like the Juniors, this group should be given every encouragement.

The Botany Study Group and the Bird Study Group continue to make progress and maintain an interest. A third Group has now been formed, that of Mammal Study, and appears to have created a great deal of interest. It is my hope that each Group can be encouraged to make regular reports of their activities and findings so that they may be recorded permanently in the *Geelong Naturalist*.

Another activity which is becoming a feature of the Club's program is bird atlassing which, under the enthusiastic direction of Margaret Cameron, has progressively added a great deal more to what was known about bird species in the Geelong area. Parallel with this activity has been a rigorously pursued survey of the Orange-bellied Parrot population. In addition, survey work has been carried out on Swan Bay in co-operation with Deakin University.

Periodically, through the year, working bees have been held in areas of special interest to the Club. These included boneseed eradication and tree planting at the You Yangs and maintenance at the Belmont Common reserve. Attendance at these functions left a lot to be desired

PRESIDENT'S REPORT FOR 1979-1980 (continued)

considering the membership numbers. In these cases, what matters is not so much how much is physically achieved as the indication to those Government and Statutory Bodies who are directly responsible for these areas, that, we, as a Club, not only voice opinions and concern, but are also willing to do something about it for the benefit of the community at large. In other words, it is a vital public relations exercise.

This year, in passing into another decade, it is, perhaps, opportune to review briefly how we have progressed through the seventies and possibly what is likely to be our progress in the eighties. The most significant development, I believe, has been the great awakening in awareness of our environment, its abuse, degradation and the loss of vast areas of natural habitats. We have moved from the activity of study and observation of natural history from the pure interest point of view. We have combined our accumulated knowledge of the flora and fauna with active campaigning, by means of submissions, lobbying and application of influence, for protection and preservation of the environment. This, of course, has placed even greater burdens upon the time and energies of your Committee. At times it has appeared an up-hill and losing battle. I believe, however, that provided we maintain our campaigning pressures we shall create a greater awareness of the natural heritage in those that have the power to preserve or destroy it.

Constant vigilance throughout the next decade will be required to preserve what we have already achieved and, hopefully, we can muster greater efforts to retrieve some of that which is already lost or in danger of being lost. In this regard, I would reiterate my concern that we should make every endeavour to encourage and inform the younger members of the Club in appreciation and continued preservation of our natural heritage.

D.F. King, President, Geelong Field Naturalists' Club.

TREASURERS STATEMENT - 1979/80

GENERAL ACCOUNT

Receipts		Expenditure	
Subscriptions	$2050.00	Printing	$661.50
Donations	540.70	Postage	218.77
Sale of Publications	429.75	Petty Cash	82.06
Interest	35.22	Subscriptions	228.75
Fete	587.62	Rent	87.00
Trading Table	163.24	Publications	434.06
From Excursion A/c	600.00	Insurance	123.69
Sundry	75.93	Office & Library	22.50
		Steel Cupboards	180.00
		Public Address Stm.	310.00
		Donations	160.00
		To Excursion A/c	600.00
		To Deposit Stock	950.00
		Sundry	58.20
	$4482.46		$4116.53

Excess Income over Expenditure $365.93

Bank Reconciliation Statement to 3.3.1980

Bank Balance 8.3.79	$1048.09
Less Unpresented Cheques 482, 484, 491, 627	25.00
	1023.09
Income	4482.46
	5505.55
Expenditure	4116.53
	1389.02
Plus Unpresented Cheques 58, 62, 69, 70, 71.	295.20
	1684.22
Less Unentered Credit 4.3.80	42.00
Bank Statement 3.3.80	1642.22

EXCURSION ACCOUNT

Receipts		Expenditure	
Mt. Beckwith Excursion	$217.00	Flinders Island	$90.00
King Island Excursion	2958.55	Mt. Beckwith	272.00
Castlemaine	278.00	Castlemaine	283.00
Donations	14.00	King Island	2871.00
Interest	68.56	To General A/c	250.00
From General A/c	350.00	To General A/c	350.00
From General A/c	250.00	Sundry refunds	12.00
Sundry	49.85	Sundry	6.88
	4185.96		4134.88

Excess Receipts over Expenditure $51.08

Bank Reconciliation to 3.3.1980

Bank Balance 13.3.79	$336.35
Income	4185.96
	4522.31
Expenditure	4134.88
	387.43
Less Unentered Credit 3.3.80	250.00
Bank Statement 3.3.80	137.43

NO. 3 ACCOUNT

Receipts		Expenditure	
Donations to Brochure	$238.55	Postage	$31.10
Interest	46.55	Sundry expenses	38.00
Sundry	31.65		
	316.75		69.10

Excess Receipts over Expenditure $247.69

Bank Reconciliation to 3.3.1980

Bank Balance 13.3.79	$1643.69
Income	316.75
	1960.44
Expenditure	69.10
Bank Statement 3.3.80	1891.34

LEAF FOLDING CRAB SPIDER

D.F. King

A specimen brought to a recent meeting of the G.F.N.C. was one of the lesser known, but highly interesting, crab spiders and its retreat in the form of a leaf folded into a pyramid shape. The spider belongs to a large family group, the Thomasidae, containing a wide variety of forms. They range in colour from rather drab to some of brilliant hue. This particular specimen was one of the latter, having an overall bright green coloration. The locality in which this specimen was found in February, 1980, was Balyang Sanctuary, where the same species had been observed some years previously.

Crab spiders get their name because the anterior pair of legs is significantly longer than the others, and is normally held forward in a circular fashion, so that they resemble a crab. These spiders, as distinct from the majority of spiders, can run sideways as well as forwards. No snare type of web is built, as they capture their prey by grasping with the anterior legs whilst in ambush or stalking.

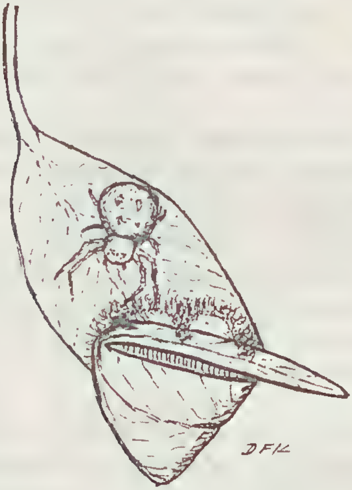
Of main interest here is the actual retreat, a remarkable effort when considering the size of the spider. The leaf is folded as shown in the illustration, to form a symmetrical chamber, held together by neat seams of woven silk. It is so constructed as to leave a small gap between the edge of the last fold and the standing part of the leaf which, in the specimen, had silk woven to form two semi-circular apertures as access to the interior of the retreat.

It is not certain whether this species is a diurnal feeder as it has not been observed outside the retreat during daylight. However, its cryptic coloration suggests it would be.

LEAF FOLDING CRAB SPIDER (continued)

The egg sac is placed inside the retreat and consists of a circular silk sac containing in the order of 20 eggs.

D.F. King, 8 Traum Street, Portarlington, 3223.



Crab spider and folded leaf retreat

ORANGE-BELLIED PARROT SURVEY

(World Wildlife Fund Australia: Project 1.)

World Wildlife Fund (Aust.) in recognising the endangered status of the Orange-bellied Parrot has funded a study which is being administered by the National Parks and Wildlife Service of Tasmania. A summer breeding survey was undertaken in Tasmania in which five nests were located (the first found for 50 years) three of which were successful in producing young.

To complement the work done in Tasmania where searches for migrating birds are now being undertaken, it is vital that the important winter surveys which have taken place in 1978 and 1979 should continue.

The 1979 survey was a very valuable exercise and provided very important information, whether results were positive or negative. A total of about 90 wintering birds were found (similar numbers to 1978), of which 63 to 68 were in the Port Phillip Bay region and 10 to 29 were in South Australia or far western Victoria (depending on whether observations referred to one mobile flock or to different individuals). One of the most exciting records was of up to nine birds at a new locality in South Australia, in a new habitat (coastal heathland).

In 1980 it is hoped to make an even greater effort to estimate the wintering population, and to find all places where the birds occur. It is known that the species is extremely rare, and all places where it occurs must have some protection. Many of them are close to private land and without suitable information it is possible that vital habitat will be destroyed unwittingly. The 1980 counts are being organised as part of the World Wildlife Fund study. Mainland state organisers are Richard Loyn (Victoria) and Leo Joseph (South Australia), and Val Dedman (432374) is the Geelong contact.

ORANGE-BELLIED PARROT SURVEY (continued)

Volunteers are needed for:

(1) Exploratory searching for new localities at all times.

(2) Regular counts at known localities, including Mud Island (Vic.) for which a boat will be available.

(3) An exploratory search along the Coorong (S.A.) on the weekend of June 28-29.

(4) A co-ordinated count on July 26th and 27th along the coasts of Victoria and South Australia.

Instead of attempting two co-ordinated counts this year, we will concentrate on making the one count when maximum numbers are likely to be present, in late July. It is essential that as much exploration as possible should be done before this. An exploratory search on the Coorong will be made by the South Australian Ornithological Association on the weekend of June 28-29 and offers of help with this will be welcome. Please let us know quickly the results of any other exploration, and which areas you may be able to cover on the July count.

As Orange-bellied Parrots are migratory and move between coastal areas during the winter, it is important to look out for them at all times.

In 1979 maximum numbers were not recorded until mid July and we have no idea where the extra birds went after leaving the breeding areas in Tasmania in March. Do they migrate across Bass Strait in small groups, or do they all fly together to an undiscovered locality in South Australia or Victoria, before moving to known localities? Searches at this part of the season will be specially valuable, and will complement searches being made in N.W. Tasmania at the same time, and we

ORANGE-BELLIED PARROT SURVEY (continued)

would like to know results of any searches, even if you do not find Orange-bellied Parrots.

Records of Blue-winged Parrots will also be valuable, in establishing a picture of the migration of this closely related species. Last year over 1,000 Blue-winged Parrots were reported. It is worth listening at night for the calls of either species as they migrate overhead.

Likely habitats to search are saltmarsh, coastal paddocks and golf-greens, sand-dunes and coastal heathland. In Port Phillip Bay, Orange-bellied Parrots feed from March to August on seeds of the saltmarsh succulent *Salicornia quinqueflora,* moving in mid-winter also into paddocks or golf-greens to feed on introduced weeds (e.g. *Cheropodium Glaucum, Atriplex hustata*) and returning to saltmarsh in September to feed on seeds of *Arthrocnemum arbusculum.* Other favoured foods include seeds of chickweed, capeweed and grasses. In 1979 birds on Swan Island showed a preference for introduced plants on golf-greens, rather than *A. arbusculum* which was seeding nearby.

If you are lucky enough to find Orange-bellied Parrots this winter, we would like to know the following information:

(1) Number of birds, date, time and locality.

(2) The habitat they were in.

(3) A description of the birds and reasons for identification if away from usual areas.

(4) The plants they were feeding on (if known). Food plants can be sent to us for identification; please try hard to see what the birds are eating.

(5) Any other comments on behaviour, etc..

(6) Sex ratio and presence of immatures (if known; they are not easy to distinguish).

ORANGE-BELLIED PARROT SURVEY (continued)

It is also essential to know how long the birds stay there, so please let us know quickly when you have found them and whether you will be able to make regular observations at the locality.

Contacts:

Victoria - Richard H. Loyn,
Lot 202 Monbulk Road,
Emerald, Vic. 3782.
Tel. 059 - 683370 or
office hours 03 - 7551803

- (Geelong/Bellarine Peninsula)
Mrs. Val Dedman
69 North Valley Road,
Highton, 3216.
Tel. 052 - 432374

South Aust. - Leo Joseph,
1 Angus Street,
Kent Town, S.A. 5067.
Tel. 08 - 315847

Tear Off Here

APPLICATION FOR RENEWAL

Name: _

Address: _

_ _

_ _ _ _ _ _ _ _ _ _ _ _ _ _ Post Code _ _

Please find enclosed cheque/postal note/money order for $ ______________, for _______________ Membership.

If you have already renewed your subscription for this year, would you kindly check the address on the the envelope enclosing this copy of "*Geelong Naturalist*".

Any inaccuracies should be advised as below -

Please correct my address as follows:-

Name: _

Address: _

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_ _ _ _ _ _ _ _ _ _ _ _ Post Code _ _

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NATIONAL MUSEUM
18 SEP 1980
OF VICTORIA

GEELONG NATURALIST

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Hon. Editor,
Margaret Cameron,
32 Cuthbertson Drive,
Ocean Grove, 3226.

Vol. 17 no. 2.

AUGUST 1980

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EDITORIAL

This issue of the Naturalist includes a report of the Gang-gang census, a brief report which underplays what seems to have been a very useful public relations exercise for the Club, and an effective means of raising public awareness of birds in the city. Newspaper publicity encouraged many people to take part in the survey and to contact Club members. Some had apparently previously not noticed the Gang-gangs before, or had regarded them only as pestilential robbers of almonds and other trees. The opportunity to learn more about these beautiful birds, while contributing to a worthwhile project, appears to have generally enhanced community awareness of the variety and value of birds in the city, and of the importance of parks, gardens, and street trees.

The more everyone can be encouraged to take an interest in the natural environment, and the better informed the ordinary citizen is (as well as the enthusiast), the better chance there is of enlightened public attitudes on conservation issues.

Margaret Cameron

THE GREY-HEADED ALBATROSS DIOMEDIA CHRYSOSTOMA BEACHWASHED IN THE BELLARINE PENINSULA AREA BETWEEN 1975 AND 1980

NATIONAL MUSEUM
18 SEP 1980
OF VICTORIA

Kevin Bartram

A systematic survey of birds washed up on beaches between Breamlea and Queenscliff has been carried out since 1975, and is continuing. Up to 1980, six Grey-headed albatrosses *(Diomedia chrysostoma)* have been found as beach derelicts. This is interesting because the Grey-headed albatross is not often seen alive in Victorian waters. Within the same period, in addition to those found in the Bellarine area by the author and others, specimens have been found elsewhere in Victoria, for example, at Wilson's Promontory and Portland (Discovery Bay) (Chris Corben, Chris Doughty, David Stewart, Martin Schultz, *pers. comm.*). For earlier records, see Wheeler (1967).

The first bird of our survey was found by David Eades, at 13th Beach, in November 1975, very late in the season for this species. Unfortunately the specimen was not retained.

The second Grey-headed albatross was found by Andrew Barnes on 23 September 1976, on Queenslciff beach near the lighthouse. It was a juvenile with a dark grey head, dark underwings, and just a hint of yellow on the top of the bill.

Only nine days later, on 2 October 1976, another Grey-headed albatross, in immaculate condition, was found on 13th Beach, by Andrew Barnes, David Eades, and the author. The specimen is now in the National Museum of Victoria. This was an adult bird, which unlike the juvenile, has a much lighter grey head, almost blue-grey. The top of the black bill, the culmen, is yellow, and the tip is pinkish or reddish. The lower mandible also

THE GREY-HEADED ALBATROSS DIOMEDIA CHRYSOSTOMA BEACHWASHED IN THE BELLARINE PENINSULA AREA BETWEEN 1971 AND 1980 (continued)

has a faint pink tip, with a yellow or pinkish line running along the lower edge of the bill from the base, usually not reaching the extreme tip. Adults also differ from juveniles by having a much greater extent of white on the underwing. The underwing resembles that of the Black-browed albatross *(Diomedia melanophrys)* except that there is less black at the axill joint, and in the area between the carpal and the wing tip. On the adult the leading edge of the wing is black. All the primaries and secondaries are black, forming the black trailing edge, but this is not as broad as the leading edge. The rest of the underwing is white. In birds of intermediate age, the amount of white on the underwing becomes progressively larger.

The author found the next bird on Point Lonsdale beach on 16 July 1977. This bird was a juvenile, again in magnificent condition, and is also in the National Museum. It had a dirty grey head, with just a touch of yellow on the top of its black bill. Nearly all of its underwing was dark except for a couple of pale centres.

No Grey-headed albatrosses were found in 1978, despite huge wrecks of other seabirds during winter.

The next specimen was found on Point Lonsdale beach, by David Eades, on 9 March 1979, a surprisingly early date. The bird was not in good condition, but was in bits and pieces. It was another adult, with a light grey head, and yellow on the top and bottom of the bill, and a pink tip.

The sixth Grey-headed albatross was found on 10 March 1980, at Ocean Grove, making two early records in consecutive years. It was again an adult bird, and resembled the other birds found on the survey. The specimen was complete but was not in good condition.

THE GREY-HEADED ALBATROSS DIOMEDIA CHRYSOSTOMA BEACHWASHED IN THE BELLARINE PENINSULA AREA BETWEEN 1971 AND 1980 (continued)

Three of the Bellarine Peninsula birds were adults, but most of the Grey-headed albatrosses beachwashed on other beaches have been juveniles. Although most albatrosses are present offshore from May to October, three out of the six Grey-headed albatrosses found dead have been outside this period. The same phenomenon seems to occur in other Albatross species. The only Wandering albatross found on the survey was in December. Occasionally Shy albatrosses have been beachwashed in April and November. As for the Yellow-nosed albatross, three were found in February-March 1978, but only one in the winter of the same year. The exception is the Black-browed albatross, of which all six specimens have been found in the winter months. Perhaps albatrosses are more likely to be beachwashed when they move to and from their wintering grounds at the beginning and end of their season here. Few albatrosses are found beachwashed compared with other species, and this may be because of their hardiness and longevity. Proof of this hypothesis will require more offshore observations to determine populations, and more beachcombing.

Anyone interested in walking beaches in the Bellarine Peninsula area should contact the author in Melbourne (Telephone 03 3590925). You never know what might turn up next! It is expected that a full report of the beach walks between 1975 and 1978 will be published shortly in the Australian Bird Watcher.

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THE GREY-HEADED ALBATROSS *DIOMEDIA CHRYSOSTOMA* *BEACHWASHED IN THE BELLARINE PENINSULA AREA BETWEEN 1971 AND 1980 (continued)*

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Kevin Bartram, 33 McBride Street, Fawkner, 3060.

A RECORD OF THE FEATHER-TAILED GLIDER FOR THE MOUNT COWLEY AREA OF THE OTWAY RANGES, VICTORIA.

Lawrie Conole

On June 14, 1980, Grant Baverstock, Paul Moore and the author were in the Mount Cowley area of the Otway Ranges for the entire day. After seeing such birds as Grey Goshawk *(Accipter novaehollandiae)*, Olive Whistler *(Pachycephala olivacea)*, Forest Raven *(Corvus tasmanicus)* and Brush Bronzewing *(Phaps elegans)*, we arrived at a location on the Garvey Track near Mount Cowley. Here there were numerous signs of the Long-nosed Bandicoot *(Perameles nasuta)* in the form of conical diggings, Black Wallabies *(Wallabia bicolor)* and many mammal runs from rat size up to wallaby size.

At 1930 hours we begun spotlighting on the Henderson Track. Here the tall wet forest is dominated by Mountain Grey Gum *(Eucalyptus cypellocarpa)*, Southern Blue Gum *(E. globulus)* with middle storey Messmate *(E. obliqua)*, Blackwood *(Acacia melanoxylon)* and Prickly Moses *(A. verticillata)*. The lower storey was Austral Mulberry *(Hedycarpa angustifolia)*, Musk Daisy-bush *(Olearia argophylla)*, Varnish Wattle *(A. verniciflua)*, Hazel Pomaderris *(Pomaderris aspera)* and Blanket Leaf *(Bedfordia salicina)*.

After seeing many Microchiropterans (small bat spp.) and Common Ringtails *(Psuedocheirus peregrinus)* we sighted one of Australia's least known marsupials - even though it is on the one cent piece - the Feather-tailed Glider *(Acrobates pygmaeus)*. This mouse sized glider is greyish-brown above, white underneath and boasts a remarkable feather-like tail.

When sighted it was parachuting down from about 30 to 35 metres up and landed in a Musk Daisy-bush. Once there it ran back and forth with its tail erect at

A RECORD OF THE FEATHER-TAILED GLIDER FOR THE MOUNT COWLEY AREA OF THE OTWAY RANGES, VICTORIA. (continued)

about 30 degrees to the plane of the body, offering excellent views of its charactaristic tail and endearing facial features.

It is unusual to see the Feather-tailed Glider in such a way, in fact it is most often seen when brought in by a cat or when its treetop home is destroyed by logging.

The Feather-tailed Glider is actually not related to the other glider-possum genera, in fact the three genera of glider-possums are more closely related to possums than each other. The Sugar Glider *(Petaurus breviceps)*, Squirrel Glider *(P. norfolcensis)* and Yellow-bellied Glider *(P. australis)* are related to the Leadbeater's or Fairy Possum *(Gymnobelideus leadbeateri)*. The Greater Glider *(Schoinobates volans)* is related to the ringtails and the Feather-tailed Glider is actually a gliding pygmy-possum.

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Lawrie Conole, 85 Clarence Street, West Geelong, 3218.

OWLET NIGHTJARS NESTING IN ARTIFICIAL NEST SITES

Barry J. Kentish

Some 20 artificial nest sites are established on the Ballarat College of Advanced Education campus (37°35'S 143°55'E) and 18 in the Union Jack Reserve (37°37'S 143°55'E), in dry sclerophyll woodlands *(Eucalyptus obliqua)*. The nest boxes are 20 x 15 x 15 cm. with a 6.5 cm. entrance hole, and were made of 2 cm. thick treated pine board.

Owlet Nightjars *(Aegotheles cristatus)* nested in two boxes, one on the Ballarat C.A.E. campus (no. 50) and the other in the Union Jack Reserve (no. 36) during 1979. Both boxes were approximately 3 - 4 metres from the woodland floor.

In the nest box in the Union Jack Reserve, fresh *E. obliqua* leaves were found by 31.10.1979. Three eggs were laid by the 27.11.1979 and a parent was incubating. An observation on the 19.12.1979 noted that neither eggs nor parent were present.

The nest box on the Ballarat C.A.E. campus was more successful. Four eggs were found on the 9.11.1979. Three had hatched by 27.11.1979 and the fourth by 30.11.1979. One of the nestlings died by the 5.12.1979 but the other three successfully fledged by 19.12.1979. The nestlings were C.S.I.R.O. banded and colour banded for individual recognition in the future.

It was observed that the parent left the nest when approached during the day. It flew away several metres but remained in sight, and did not return in our presence.

OWLET NIGHTJARS NESTING IN ARTIFICIAL NEST SITES (continued)

Brooding of the chicks then appeared to cease during the latter half of the nestling stage, as no parent left the nest when it was approached.

An adult Owlet Nightjar was seen roosting during the day in another box close to the nestlings' box. It was not known if this was a parent of the chicks.

After the chicks had fledged, little use of the box was observed until 4.3.1980 when fresh *E. obliqua* leaves were again found in the box and on the 18.3.1980 an adult was seen roosting there.

The results are comparable to the data collected by Golding (1979), although later with regard to hatching and fledging.

Observations were made by Robert Brouwers, Gayle Spicer and myself during the 1979/80 breeding season at weekly intervals at approximately 1400 hours.

REFERENCE

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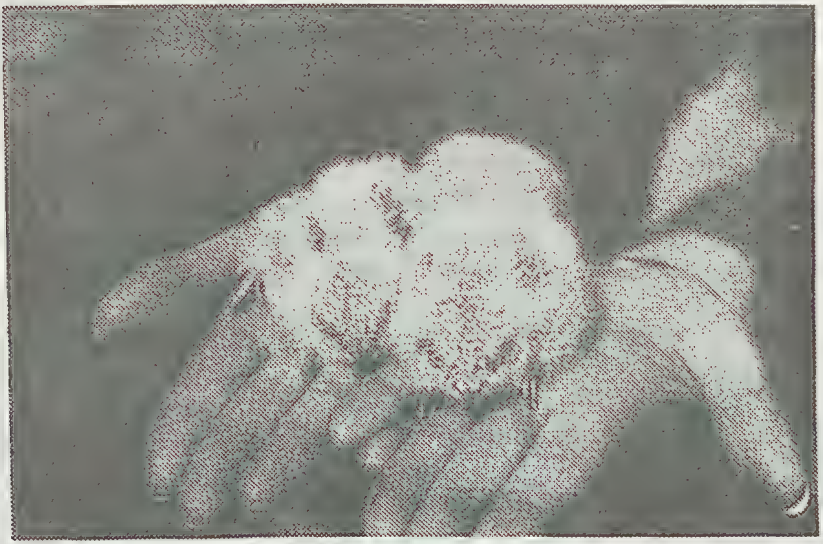
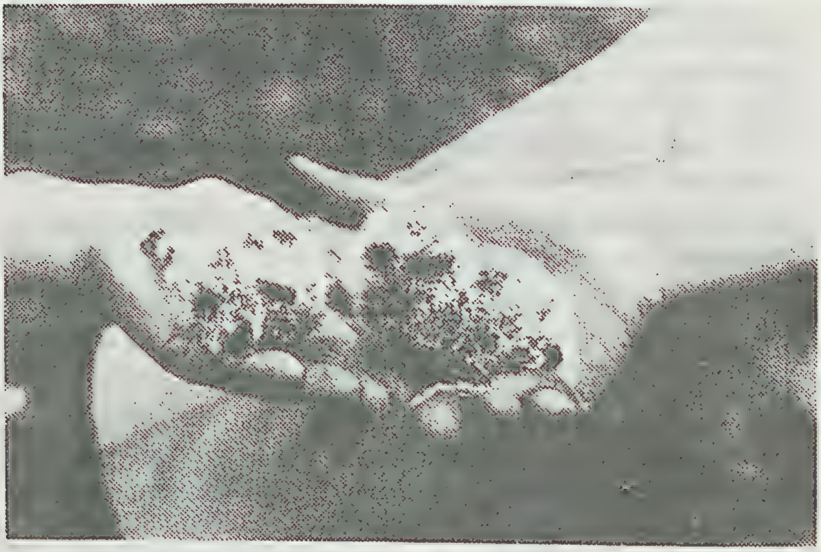
Barry J. Kentish, Dept. of Applied Biology and
Environmental Science, Ballarat
College of Advanced Education,
Mt. Helen, 3350.



Owlet nightjars: 3-4 days Photograph by B. Kentish



Owlet nightjars: 15-16 days Photograph by B. Kentish

A SURVEY OF BIRDS OF EASTERN PARK AND POINT HENRY, GEELONG, DECEMBER 1979

Craig G. Morley

This survey of the birds of Eastern Park, Geelong, was undertaken as part of an end of year activities programme for Geelong High School students in December 1979.

Eastern Park is situated to the east of the central business district of Geelong. It is bounded to the north by Corio Bay, to the south and west by urban dwellings, and to the east by cleared land on which the Animal Health Laboratories are being built. The School is in the south-west corner of the Park. The Geelong Botanical Gardens are situated within the Park which otherwise consists predominantly of open playing fields bordered by eucalypts and exotic pines.

The aim of this Bird-mapping Activity was threefold:

(i) To introduce students to some of the basics of bird-watching such as careful and accurate observation and recording, recording of date and time of observation period and prevailing weather conditions, and recording of birds as they are seen in the field.

(ii) To introduce students to the birds which can be seen in the Park.

(iii) To record the birds of the Park with a view to filling out a record sheet for the Atlas of Australian Birds.

(The Royal Australasian Ornithologists Union is compiling the Atlas of Australian Birds, to determine the past and present distribution, both breeding and non-breeding, of all bird species in Australia. Records for the Atlas project are made in relation to longitude and latitude coordinates. The grid reference for

A SURVEY OF BIRDS OF EASTERN PARK AND POINT HENRY, GEELONG, DECEMBER 1979 (continued)

Eastern Park is 38°05'S x 144°25'E. Three observation sessions were carried out in the Park, and one at Point Henry, which is in the same 10 minute square. Habitat at Point Henry included beach, swamp, and salt pans. The Point Henry list is at the end of this report.)

Periods of Observation

Tues	4.12.79	9.15-10.30, 10.50-12 noon	Overcast, Humid
Thurs	6.12.79	9.10-10.30, 11-12 noon	Cool, Overcast
Fri	7.12.79	9-10.30 a.m.	Hot, Sunny
Mon	10.12.79	9.10-12 noon (Pt.Henry)	Overcast, Windy

Observers

Level 9 students: Bradley Ferrier, Darren Jeffs, John Mullinder, Geoff Nicol, Adam Wilson

Level 8 students: Phillip Earl, Rolf Herzer.

BIRDS OBSERVED

Native birds (26 species)

Australian Pelican *(Pelecanus conspicillatus)*
One bird seen overhead, 6th December 1979.

White-faced Heron *(Ardea novaehollandiae)*
One bird noted sitting on lamp post at southern boundary of Golf Course.

Sacred Ibis *(Threskiornis aethiopica)*
One bird overhead, 6th December 1979. Flock of 15 overhead on 7th.

Straw-necked Ibis *(Threskiornis spinicollis)*
Seen overhead, also feeding in eastern area of Park.

Stubble Quail *(Coturnix novaezelandiae)*
One bird flushed from reasonably short grass, north of Pitch One between road and Botanical Gardens.

A SURVEY OF BIRDS OF EASTERN PARK AND POINT HENRY, GEELONG, DECEMBER 1979 (continued)

Masked Plover *(Vanellus miles)*
Two pairs noted south of Golf Course, one pair with three young.

Silver Gull *(Larus novaehollandiae)*
Common overhead, also noted feeding in School ground.

Crested Tern *(Sterna bergii)*
One bird seen in flight at Limeburner's Point.

Sulphur-crested Cockatoo *(Cacatua galerita)*
One bird seen in area south of Golf Course, flushed from long grass, roosted in Eucalypt. Aviary escapee?

Shining Bronze-Cuckoo *(Chrysococcyx lucidus)*
Frequently heard calling throughout Park. One juvenile being fed by a Yellow-rumped Thornbill in north-eastern corner of Park.

Laughing Kookaburra *(Dacelo novaeguineae)*
One bird seen in Botanical Gardens on the 6th, and possibly same individual seen perched in trees on west side of Limeburners Road on the 7th. Heard calling on 6th.

Sacred Kingfisher *(Halcyon sancta)*
One bird noted near entrance to Botanical Gardens on 6th. Was not heard calling during the three visits to the Park.

Welcome Swallow *(Hirundo neoxena)*
Not uncommon. Seen in open areas of Park such as School ground and Limeburner's Point.

Black-faced Cuckoo-Shrike *(Coracina novaehollandiae)*
One bird observed in trees on western boundary of Golf Course.

Golden Whistler *(Pachycephala pectoralis)*
Pair seen and heard near Botanical Gardens entrance.

Grey Fantail *(Rhipidura fuliginosa)*
Common in and around Botanical Gardens, especially southern boundary. One immature bird noted.

A SURVEY OF BIRDS OF EASTERN PARK AND POINT HENRY, GEELONG, DECEMBER 1979 (continued)

Willie Wagtail *(Rhipidura leucophrys)*
Common throughout Park, also observed building nest.

Brown Thornbill *(Acanthiza pusilla)*
One bird noted inside Botanical Gardens near gate.

Yellow-rumped Thornbill *(Acanthiza chrysorrhoa)*
Common throughout Park. Small flocks noted feeding on ground. On occasions feeding in association with Greenfinch, Goldfinch and House Sparrow. This Thornbill species also noted feeding high up in Gum trees at northern boundary of School. Also one bird observed feeding Shining Bronze-Cuckoo.

Red Wattlebird *(Anthochaera carunculata)*
Common, heard and seen throughout the Park. On two separate occasions, on southern side of Park, fledged young were observed being fed.

Spotted Pardalote *(Pardalotus punctatus)*
One bird heard calling south of Golf Course.

Silvereye *(Zosterops lateralis)*
Uncommon. Seen in Botanical Gardens and also in Park between Gardens and School.

Australian Magpie-lark *(Grallina cyanoleuca)*
Seen throughout Park, mainly in pairs. One male noted feeding with two immature birds.

Grey Butcherbird *(Cracticus torquatus)*
Seen on occasions, heard calling throughout the Park. One fledged young seen being fed.

Australian Magpie *(Gymnorhina tibicen)*
Common throughout Park. One pair observed being chased from Willie Wagtail nest site.

Little Raven *(Corvus mellori)*
Occasionally heard calling in Park.

A SURVEY OF BIRDS OF EASTERN PARK AND POINT HENRY, GEELONG, DECEMBER 1979 (continued)

Introduced birds (9 species)

Feral Pigeon *(Columba livia)*
Several seen overhead.

Spotted Turtledove *(Streptopelia chinensis)*
Very common in Park south of Botanical Gardens.

Skylark *(Alauda arvensis)*
Several sightings in long grass, also heard singing overhead on several occasions.

Blackbird *(Turdus merula)*
Several birds noted in and around Botanical Gardens.

European Goldfinch *(Carduelis carduelis)*
Birds noted throughout Park.

European Greenfinch *(Carduelis chloris)*
On several occasions heard and seen at top of pine trees. Groups of up to eight birds seen feeding on ground in area between School and Gardens.

House Sparrow *(Passer domesticus)*
Seen throughout Park, but more common around School buildings.

Tree Sparrow *(Passer montanus)*
Several birds identified by chestnut crown.

Common Starling *(Sturnus vulgaris)*
Common! At least four nest sites observed, one in peppercorn tree in Botanical Gardens, one in gum tree in north-eastern corner of the Park and two in School buildings.

BIRDS OBSERVED AT POINT HENRY, 10TH DECEMBER 1979.
(36 species)

Great Crested Grebe *(Podiceps cristatus)*
Australian Pelican *(Pelecanus conspicillatus)*
Pied Cormorant *(Phalacrocorax varius)*
Little Pied Cormorant *(Phalacrocorax melanoleucos)*

A SURVEY OF BIRDS OF EASTERN PARK AND POINT HENRY, GEELONG, DECEMBER 1979 (continued)

Black Cormorant *(Phalacrocorax carbo)*
Sacred Ibis *(Threskiornis aethiopica)*
Straw-necked Ibis *(Threskiornis spinicollis)*
Black Swan *(Cygnus atratus)*
Australian Shelduck *(Tadorna tadornoides)*
Pacific Black Duck *(Anas superciliosa)*
Grey Teal *(Anas gibberifrons)*
Dusky Moorhen *(Gallinula tenebrosa)*
Purple Swamphen *(Porphyrio porphyrio)*
Pied Oystercatcher *(Haematopus longirostris)*
Masked Plover *(Vanellus miles)*
Red-capped Plover *(Charadrius ruficapillus)*
Black-winged Stilt *(Himantopus himantopus)*
Red-necked Avocet *(Recurvirostra novaehollandiae)*
Latham's Snipe *(Gallinago hardwickii)*
Sharp-tailed Sandpiper *(Calidris acuminata)*
Red-necked Stint *(Calidris ruficollis)*
Silver Gull *(Larus novaehollandiae)*
Pacific Gull *(Larus pacificus)*
Whiskered Tern *(Chlidonias hybrida)*
Fairy Tern *(Sterna nereis)*
Crested Tern *(Sterna bergii)*
Domestic Pigeon *(Columba livia)*
Skylark *(Alauda arvensis)*
Welcome Swallow *(Hirundo neoxena)*
Clamorous Reed Warbler *(Acrocephalus stentoreus)*
Little Grassbird *(Megalurus gramineus)*
White-fronted Chat *(Ephthianura albifrons)*
European Goldfinch *(Carduelis carduelis)*
House Sparrow *(Passer domesticus)*
Common Starling *(Sturnus vulgaris)*
Little Raven *(Corvus mellori)*

Craig G. Morley, 22 Fairmont Road, Newtown,
3220.

CRESTED SHRIKE-TITS AT HERNE HILL

Jess Collins

On Saturday 7th June, at 1.30 p.m., a casual glance toward the street from the kitchen window became an excited stare when I saw two Crested Shrike-tits *(Falcunculus frontatus)* hopping about on the bare branches of our silver birch tree about six feet from the window. They were busily inspecting twigs and branches, pecking now and then at the drooping catkins, until they flew off when disturbed by a passer-by hurrying along the footpath.

We seldom have special bird visitors in this open western side of Geelong - Herne Hill - and this sighting was a delight which made us realise that, with birds, anything can happen anywhere.

Valda Dedman has given me dates of her recorded sightings of this lovely bird in her Highton garden:-

1969, 14th June, in a pear tree.
1971, 1st and 2nd July, in an apricot tree.
1978, 31st January, in nectarine tree - this time the bird was calling musically.

Lawrie Conole has a record of Crested Shrike-tits in a silver birch in the garden of his home in Clarence Street, Geelong West, on the 14th April 1978.

Jess Collins, 9 Warwick Street, Newtown, 3220.

(Editor's note: All the above records are of Crested Shrike-tits seeking food in exotic garden trees. Ira Savage reports Crested Shrike-tits in a narrow-leaved peppermint in his Herne Hill garden in July 1980, and Trevor Pescott says they regularly visit Tuart gums and other native trees in his Belmont garden.)

GANG-GANGS IN GEELONG

Val Dedman

Because of the interest generated by the larger than usual numbers of Gang-gang Cockatoos *(Callocephalon fimbriatum)* in Geelong this autumn and winter, a survey was conducted on the weekend of July 5 and 6, 1980, to try and ascertain the size of the flock and its pattern of movement. From the results of this survey, and records received of sightings both before and since (until the time of writing, July 29), the following conclusions are put forward.

The flock arrived in early March from the Otways, moving west through Highton to the Herne Hill area, where they have been seen regularly in large numbers since the beginning of April. There appear to be some 60-100 birds visiting the urban area, and in early autumn they moved together in large flocks of up to 50 birds; sightings of 20-30 Gang-gangs together were common. Since then, perhaps as food sources were eaten out, and new scattered ones were found, the flock has broken up, and since mid-June smaller parties have been recorded, although the general areas where they feed are the same.

Gang-gangs have been seen consistently in Highton, Newtown and Herne Hill, and to a lesser extent in parts of west Belmont, with fewer sightings in the more southerly areas during June and July. There has been a "resident" flock of approximately 25 birds at Eastern Park, and as they have been recorded in Kardinia Park and through South Geelong, there may be an east-west movement across between the two areas. During the survey weekend, although the weather was poor, with wind and rain, and sightings were fewer than at other times, Gang-gangs were seen or heard in all the above areas, and also recorded at Ocean Grove, Moriac and the Anglesea Road, Waurn Ponds. They have also been recorded this winter at Leopold, *GANG-GANGS IN GEELONG (continued)*

Portarlington, Indented Head, and throughout the western fringe of Geelong as far as Bell Park. A large flock may have roosted at the Geelong Golf Course.

Unlike the Sulphur-crested Cockatoos *(Cacatua galerita)* and the Cattle Egrets *(Ardeola ibis)*, the whole flock does not come together at night for roosting. Smaller parties, usually of 15 to 20 birds, have been seen coming in at dusk to various places - Eastern Park, the Western Cemetery, the redgums along the Barwon River at the end of Fyans Street, and judging by direction and time of movement, somewhere in South Highton. On 21 March in the evening Ray Baverstock saw 50 Gang-gangs roosting in a dead tree in South Valley Road, but this has not been confirmed by later observations.

Gang-gang movements probably coincide with the birds' feeding preferences. They have frequently been seen feeding on the fruits of Sugar Gums, which grow in Eastern Park and at Leopold, and on Eucalyptus leucoxylon, common as a street tree in Highton. They have been known to eat berries, seeds of crab apples and almonds, as well as "spitfires" (sawfly larvae). They are very untidy and destructive eaters, and their presence in trees can often be ascertained by the litter of seed capsules and torn blossom on the ground beneath. When feeding they can be approached quite closely. There are a number of reports of Gang-gangs coming in to drink at garden bird baths, and in one case they also ate bird seed put out for them.

In previous years the Gang-gangs have generally left the urban areas by early October. I have recorded autumn and winter vists at Highton every year since 1972, but I do not know if they have always spread as extensively throughout the other suburbs as they have this year. At the turn of the century they did not visit regularly. Sir Charles Belcher recorded them in 1891 at Charlemont, Bream Creek, and in 1905, 1907 and 1913 they visited Eastern Park, where, as now, they feasted on Sugar Gums.

GANG-GANGS IN GEELONG (continued)

Possibly the increase in garden and street planting of native trees with suitable seed capsules has led to the regular appearance of the Gang-gangs in the urban areas of Geelong.

I hope they will continue to visit us every year. I will be happy to receive any further records both for the remainder of this year and in future years.

Mrs. V. Dedman, 69 North Valley Road,
Highton, 3216.

(Editor's note: Two reports of Gang-gangs in Lara T. Pescott *pers.comm.*) are noteworthy, as Gang-gangs have rarely been recorded north of the city. They were noted in sugar-gum plantations in the You Yangs in 1957 (Ian Hore-Lacy: *Birds of the You Yangs;* supplement to *Bird observer*, July 1979), but T. Pescott has no later records.)

ZEBRA FINCHES AT DEAKIN UNIVERSITY, WAURN PONDS

Margaret Cameron

A small flock of Zebra finches *(Poephila guttata)* visited the Waurn Ponds campus of Deakin University during late April and early May 1980. They were first recorded by Trevor Pescott on 30 April, and last by Shirley Bartlett on 18 May. There appeared to be 6 - 9 birds, which associated with a large flock of Goldfinches. Calls were heard both earlier and later than these dates, but cannot be considered as conclusive evidence of the presence of the finches, as in late May a Starling was heard convincingly mimicking the call of the Zebra finch.

Pescott (1979) summarises reports of Zebra finches in the Geelong area, noting that small groups frequent the You Yangs and Little River areas. In 1958 a flock of 30 - 40 was seen beside the Moorabool River near Gheringhap. In 1947 R. Ferguson recorded flocks on the MMBW sewerage farm near Little River. On 2 April 1979, Ina McIntyre *(pers. comm.)* recorded 8 near the Farm Road - Lagoon Road corner on the MMBW farm, and R. Swindley (*pers.comm.)* has recorded a small number in the same area fairly regularly for several years, and had considered the possibility that they may have been released from an aviary.

REFERENCE

PESCOTT, T.W. 1979. *Zebra finch a rare resident.* Geelong Advertiser, 8 February 1979.

Margaret A. Cameron, 32 Cuthbertson Drive,
Ocean Grove, 3226.

ZEBRA FINCHES

Photograph by L. Conole

THE VICTORIAN WADER STUDY GROUP
ITS OBJECTIVES AND SOME RESULTS

Clive Minton and Members of the V.S.W.G.

The Victorian Wader Study Group was formed in June 1979, to conduct wader banding, wader counts, and other large scale projects in Victoria, and to facilitate communication and coordination of activities among wader enthusiasts. The Group is jointly convened by Clive Minton, who, before he came to Australia, was responsible in the U.K. for the organization of a nation-wide group to study the movements and biology of waders, and David Robertson, who, after banding waders in Malaysia, started mistnetting and banding waders in Victoria in 1975. Its membership includes members of the Victorian Ornithological Research Group (with which it is affiliated), the Bird Observers Club, the Royal Australasian Ornithologists Union, the Geelong Field Naturalists Club, and others. Clive Minton is a member of the R.A.O.U.'s Field Investigations Committee, and the role of the R.A.O.U. in the work of the V.W.S.G. is to ensure that the knowledge, experience and expertise developed in wader studies is passed on to other ornithologists in Australia.

The objectives of the Group have been framed in the context of the main V.W.S.G. Study Area at Werribee. Comparative data is being generated on wader population in other parts of Port Phillip Bay and elsewhere in Victoria.

The main objectives of the study have been defined as:

(a) to ascertain, from recoveries of banded birds and from biometric measurements, which populations of waders occur at Werribee and which migration routes are used (both within Australia and overseas);

THE VICTORIAN WADER STUDY GROUP: ITS OBJECTIVES AND SOME RESULTS (continued)

(b) to find out, from recaptures of banded birds, whether individual birds are utilising the Werribee area throughout the season and whether the same individuals return in subsequent years;

(c) to gather, from recaptures of banded birds, data on population turnover so that (in conjunction with the count data) an estimate may be made of the total number of birds (as opposed to the maximum at any one time) using the area during the course of a year. It is the latter which is important when considering conservation measures as a result of any proposed change in the environment;

(d) to obtain data on the weights of birds - these can be useful in indicating the balance between population level and the available food supply. Weight gain prior to migration also enables prediction of the likely length of journey to be undertaken on the first stage of the migration back to the breeding grounds;

(e) to collect other relevant information relating to the use being made of the Werribee area by waders, e.g. as a moulting ground. Data is being collected which will elucidate the different moulting patterns/periods of species/age groups - moult being an important function which has to be fitted into the annual cycle.

(f) to estimate, using capture/recapture data, the annual survival rates of the different species/age groups. Such data is particularly important in any study of population dynamics;

(g) to obtain data, from the proportion of juvenile birds in catches, on annual variations in the breeding success of each species. Arctic breeding species in particular are known to suffer wide variations in annual productivity due to the extreme variability in weather conditions which can occur on the breeding grounds.

THE VICTORIAN WADER STUDY GROUP: ITS OBJECTIVES AND SOME RESULTS (continued)

The duration of the study will initially be for five years (i.e. to mid 1984). It is hoped that this study, in conjunction with population count data and (hopefully) feeding studies, will enable a comprehensive understanding to be obtained of the wader populations which occur at Werribee - probably one of the richest feeding areas for waders in the world.

Banding

Since 1975, 13,204 waders have been banded for the first time in Victoria by the Group, and 1,306 have been retrapped. 11,083 of these were at Werribee, 849 at Queenslciff, and 22 at Mud Island. Table 1. gives species totals. Other statistical information is included in the V.W.S.G. Bulletins.

Recoveries of Banded Birds

In addition to local retraps and recoveries, waders banded at Werribee have been recovered elsewhere in Victoria (Lake Connewarre, Queenscliff, Phillip Island, Westernport), in Tasmania, at Newcastle in N.S.W.; in New Zealand (Double-banded plovers and a Red knot); and in Hong Kong, and 400 km. north of Canton in China (both Curlew sandpipers). Table 2. includes waders banded and/or recovered in Victoria by the V.W.S.G., whose Bulletin No. 2 also lists other wader recoveries relating to Victoria (from information provided from the C.S.I.R.O. Banding Scheme) and non-waders banded and/or recovered in Victoria by the V.W.S.G.

Colour Marking of Waders

Between September 1979 and mid-January 1980 most of the Rednecked Stints, Curlew Sandpipers and Sharp-tailed Sandpipers caught for banding have also been marked, on their underparts, with a yellow dye (picric acid in alcohol) in order to gain additional information on movements. (This is considered a safe

TABLE 1.

VICTORIAN WADER STUDY GROUP VICTORIAN WADER CATCHES FROM 1975 TO 30TH JUNE 1980

N. - New R. - Retrap T. - Total	Port Phillip Bay															Westernport Bay						Corner Inlet			TOTAL		
	Werribee			Queenscliff			Mud Island			Altona			Seaford Swamp			Yallock Creek			Rhyll								
	N.	R.	T.	N.	R.	T.	N.	R.	T.	N.	R.	T.	N.	R.	T.	N.	R.	T.	N.	R.	T.	N.	R.	T.	N.	R.	T.
Pied Oystercatcher	60	14	74																13	2	15	14	-	14	87	16	103
Sooty Oystercatcher	1	-	1																						1	-	1
Masked Lapwing	15	-	15																						15	-	15
Grey Plover				4	-	4																			4	-	4
Lesser Golden Plover	22	4	26																						22	4	26
Red-kneed Dotterel	40	-	40																						40	-	40
Mongolian Plover	8	-	8	2	-	2																			10	-	10
Double-banded Plover	94	-	94	107	-	107				36	-	36													237	-	237
Red-capped Plover	195	55	250				2	-	2																197	55	252
Black-fronted Plover	3	-	3																						3	-	3
Black-winged Stilt	1	-	1										5	-	5										6	-	6
Red-necked Avocet	15	-	15																						15	-	15
Ruddy Turnstone	7	-	7	18	-	18																			25	-	25
Eastern Curlew																3	-	3							3	-	3
Greenshank	1	-	1																						1	-	1
Terek Sandpiper	1	-	1													3	-	3							4	-	4
Latham's Snipe													21	-	21										21	-	21
Bar-tailed Godwit	4	-	4																15	-	15	186	-	186	205	-	205
Red Knot	99	10	109	27	1	28										2	-	2				7	-	7	135	11	146
Great Knot				3	-	3																12	-	12	15	-	15
Sharp-tailed Sandpiper	729	5	734	1	-	1							66	-	66	18	-	18				5	-	5	819	5	824
Little Stint	1	-	1																						1	-	1
Red-necked Stint	5945	894	6839	557	6	563	20	-	20							772	1	773				617	5	622	7911	906	8817
Curlew Sandpiper	2553	307	2860	123	-	123										711	2	713				38	-	38	3425	309	3734
Sanderling																						2	-	2	2	-	2
TOTAL	9794	1289	11083	842	7	849	22	-	22	36	-	36	92	-	92	1509	3	1512	28	2	30	881	5	886	13204	1306	14510

TABLE 2.1

RECOVERIES OF BANDED BIRDS

The original banding details are on the top line and the recovery details on the lower line. Local retraps and recoveries are not included.

WADERS BANDED AND/OR RECOVERED IN VICTORIA BY VWSG

Pied Oystercatcher

100-81163	Juvenile	28.4.79	The Spit, Werribee	
	Recaptured	1.3.80	Rhyll, Phillip Island	80 km SE
100-81166	Juvenile	28.4.79	The Spit, Werribee	
	Recaptured	1.3.80	Rhyll, Phillip Island	80 km SE

Double-banded Plover

New Zealand B-11826 (also colour banded)	Adult Female (breeding)	26.11.77	Lake Tekapo, New Zealand (Central Region-Sth Island)	
	(a) Seen breeding (with chicks)	11.11.78 to 27.11.78	where banded	Local
	(b) Seen wintering	17.6.79	Point Wilson, Werribee	2000 kmWNW
	(c) Seen in flock	21.7.79 to 21.8.79	where banded	2000 kmESE
	(d) Seen breeding	9.9.79 onwards	where banded	Local

The bird was recognised by coloured leg bands (individual combination).

Red Knot

051-08005	Juvenile	24.2.79	The Spit, Werribee	
	Recaptured	28.1.80	Queenscliff	25 km SSE
061-31435	Juvenile	27.1.79	The Spit, Werribee	
	Recaptured	2.3.80	Kaipara Harbour, Auckland, New Zealand	2600 km E
061-31442	Juvenile	27.1.79	The Spit, Werribee	
	Dead under wires	9.3.80	Queenscliff	25 km SSE

The last two birds were banded together yet recovered 2600 km apart on almost the same date.

TABLE 2.2

Red-necked Stint

030-27944	Free flying	28.12.76	Newcastle, NSW	
	Recaptured	12.11.77	The Spit, Werribee	850 km SW
031-66251	Freeflying	28.12.76	Newcastle, NSW	
	Recaptured	10.3.79	The Spit, Werribee	850 km SW
032-14781	Adult	6.11.78	The Spit, Werribee	
	Recaptured	22.11.79	Hobart, Tasmania	610 km SSE
032-19340	Juvenile	13.4.79	The Spit, Werribee	
	Recaptured	22.12.79	Yallock Creek, Westernport Bay	85 km ESE
032-18962	Adult	13.4.79	The Spit, Werribee	
	Recaptured	15.2.80	Georgetown, Tasmania	390 km SSE
032-17546	Adult	11.3.79	The Spit, Werribee	
	Recaptured	10.3.80	Queenscliff	25 km SSE
032-19956	1st year (1 yr old)	22.9.79	The Spit, Werribee	
	Recaptured	15.3.80	Hobart, Tasmania	610 km SSE
032-21236	Adult	22.12.79	Yallock Creek, Westernport Bay	
	Recaptured	14.6.80	Queenscliff	75 km W
032-28370	Juvenile	17.2.80	Hobart, Tasmania	
	Recaptured	14.6.80	Queenscliff	590 km NNW

Three of the above concern birds on passage through Werribee to/from Tasmania. There appear to be remarkably few movements between sites in Victoria judging by the low number of recaptures in sizeable samples which have now been caught away from Werribee at Queenscliff (563), Westernport Bay (773) and Corner Inlet (617).

Curlew Sandpiper

Malaysia M-12903	Freeflying	9.10.76	Singapore	
	Recaptured	3.3.78	The Spit, Werribee	7100 km SE
040-94221	Adult	27.12.78	The Spit, Werribee	
	Recaptured	3.3.79	Newcastle, NSW	850 km NE
040-94218	Juvenile	27.12.78	The Spit, Werribee	
	Found shot	13.3.79	L. Connewarre, Geelong	32 km SW
040-95399	Juvenile	11.3.79	The Spit, Werribee	
	Recaptured	30.11.79	Newcastle, NSW	850 km NE
040-35102	Freeflying	[illegible]	Newcastle, NSW	
	Recaptured	[illegible]	Yallock Creek, Westernport Bay	[illegible] km SW

TABLE 2.3

040-91695	Pre-flying	11.12.76	Newcastle, NSW	
	Recaptured	22.12.79	Yallock Creek, Westernport Bay	810 km SW
040-93339	Adult	7.10.78	Newcastle, NSW	
	Recaptured	26.1.80	The Spit, Werribee	850 km SW
040-95458	Adult	24.3.79	The Spit, Werribee	
	Recaptured	11.4.80	Hong Kong	7200 km NNW
(not known)	Adult	13.1.80	The Spit, Werribee	
	Recaptured	12.5.80	400 km north of Canton, China.	

Of the four movements to/from Newcastle, NSW, two relate to birds which appear to have changed their summering grounds from Newcastle to Westernport Bay.

THE VICTORIAN WADER STUDY GROUP: ITS OBJECTIVES AND SOME RESULTS (continued)

marking technique. (Patterson, 1978). In the summer months information was mainly sought on local movements between different sites on Port Phillip Bay. Results, detailed below, indicate remarkably little dispersal with almost all resightings being in the original marking area.

Birds lost their colour during the moult of their body feathers between late January and early March, prior to their departure on migration to the Arctic breeding grounds. Colour marking was resumed at Werribee in early April with the objectives of aiding the studies of -

(a) the northward migration route of Rednecked Stints and Curlew Sandpipers;

(b) local movements of the one year old Rednecked Stints and Curlew Sandpipers which over-winter;

(c) the "catchment area" of the Redcapped Plovers which congregate in flocks during the winter. It is hoped that the colour will be retained until after birds have dispersed to their breeding areas. This will depend on the (unknown) timing of body moult. Please look out for colour dyed Redcapped Plovers during the next breeding season.

(d) the areas in New Zealand to which Double-banded Plovers wintering in Victoria return. Birds caught at all sites (including Queensland and Altona) have been colour-dyed and some birds have had coloured plastic leg bands added also.

Results

A. Colour dyed September 1979 to mid-January 1980

Number of birds colour dyed -

608	Rednecked Stint
279	Curlew Sandpiper
194	Sharptailed Sandpiper
12	Rednecked Avocet (under wing only)
2	Red Knot
2	Redcapped Plover

THE VICTORIAN WADER STUDY GROUP: ITS OBJECTIVES AND SOME RESULTS (continued)

Sightings (all single birds) away from Werribee

- Rednecked Stint - 17 Feb. Adelaide saltfields (650 km. WNW)
  - 24 Feb. Andersons Inlet, Inveloch (130 km. SE)
- Curlew Sandpiper - 20 Jan. Queenscliff (25 km. SSE)
  - 3 Feb. Altona Saltworks (25 km. NE)
- Sharptailed Sandpiper - Nov. L. Connewarre (25 km. SSW)

There were many local sightings of colour marked Rednecked Stints and Curlew Sandpipers (but few Sharptailed Sandpipers) in the Werribee area. Both of the Red Knot and the Redcapped Plovers, and some of the Rednecked Avocets, were also seen again after marking.

B. Colour dyed April to June 1980

Number of birds colour dyed

- 591	Rednecked Stint
142	Doublebanded Plover (Queenscliff & Altona)
118	Redcapped Plover
4	Curlew Sandpiper
1	Mongolian Plover

Sightings away from marking area

- Rednecked Stint - 20 April, 4 at L. Murdeduke (55 km. WSW)
  - 20 April, 1 at Queenscliff (25 km. SSE)
  - 25 April, 3 at L. Murdaduke (55 km. WSW)
  - 25 April, 2 at L. Connewarre (25 km. SSW)
  - end May, 1 at Black Rock (45 km. ENE)

THE VICTORIAN WADER STUDY GROUP: ITS OBJECTIVES AND SOME RESULTS (continued)

- Redcapped Plover - end May/early June, 1 at Queenscliff (25 km. SSE)

There have been many local sightings of colour marked Redcapped Plovers in May/June at Werribee.

Migratory Wader Counts

The migratory wader count carried out on 1-2 December 1979 was a success, despite the atrocious weather on Sunday (2nd). This was due to the participation and hard work of some 90 people. Four roosts that were missed on the count weekend were visited within three weeks and the totals included.

Table 3. gives the results for each species in geographical areas. The grand total of migratory waders was nearly 81,000. Resident waders (Masked Lapwing, Red-capped Plover and Pied Oystercatcher) have been omitted from the data as they were widely dispersed for breeding and not counted adequately. Sandy beaches and rocky shores were generally not included in the count, since it concentrated on marine embayments, mudflats and estuaries, and species such as Turnstone and Sanderling were probably missed for this reason. Those species which utilise freshwater habitats extensively (Sharp-tailed Sandpiper, Greenshank, Marsh Sandpiper) were covered adequately in Port Phillip Bay, Westernport and on Bellarine Peninsula, but could not be counted properly elsewhere due to lack of manpower and information about wader sites. Solitary and/ or rarer species (Common Sandpiper, Large Sand Plover (dotterel), Terek Sandpiper) could be easily overlooked in the larger groups of waders. So for the abovementioned species the count data can be considered as only a bare minimum.

In the table, some localities have been combined, e.g. Mud Islands with Bellarine Peninsula; Shallow Inlet with Corner Inlet, as it is believed, at present, that

TABLE 3.

VICTORIAN WADER COUNT 1-2 DEC 1979

	PORTLAND -PORT FAIRY	PORT PHILLIP BAY									
		BELLARINE PENINSULA	WESTERN SIDE	EASTERN SIDE	WESTERN PORT	ANDERSON'S INLET	CORNER INLET	GIPPSLAND LAKES	SNOWY RIVER -MALLACOOTA	TOTAL	%
Grey Plover	77	111	13				25			149	
Lesser Golden Plover	77	5	19		28		77		3	209	
Mongolian Plover		29			1		80			110	
Double-banded Plover					1					1	
Large Sand Plover									1	1	
Ruddy Turnstone	42	85	40		72		8	3		250	
Eastern Curlew		210	26		652	12	899		4	1803	2.2
Whimbrel					5		3			8	
Wood Sandpiper				2						2	
Grey-tailed Tattler	2	38	5		22		21			88	
Common Sandpiper	5		2	1						8	
Greenshank		187	153		180	2	42			564	0.7
Marsh Sandpiper			13							13	
Terek Sandpiper			1							1	
Black-tailed Godwit		9	2				10			21	
Bar-tailed Godwit	1	352	12		229		5500			6094	7.5
Red Knot		124	85		34		1560	30	1	1834	2.3
Great Knot		18					30			48	
Sharp-tailed Sandpiper	140	3255	6114	3000	293	30	111	401		13344	16.5
Red-necked Stint	457	6938	10188	106	4800	5000	10450	2610	36	40585	50.2
Curlew Sandpiper	9	1002	9350	15	3580	300	1103	10		15369	19.0
Sanderling	17						300			317	
TOTAL	750	12363	26023	3124	9898	5344	20219	3054	45	80820	
%	0.93	15.30	32.20	3.86	12.25	6.61	25.02	3.78	0.06		

THE VICTORIAN WADER STUDY GROUP: ITS OBJECTIVES AND SOME RESULTS (continued)

these areas operate in close conjunction depending upon local conditions.

The count has provided a good indication of which areas are significant for wader conservation in Victoria. It has demonstrated that most of the entire Victorian population of some species is dependent on a single area, e.g. 90% Bar-tailed Godwits are in Corner Inlet.

The count is to be repeated next Summer, but changed from December to February. This should have several advantages:

1. potentially more stable weather;
2. temporary habitat is likely to have diminished (inland swamps drying up) thus concentrating the birds for more accurate counting;
3. numbers are less likely to be influenced by movement as banding studies have shown that most species will still be moulting and/or putting on fat at this time.

Hooded Plover Survey

A survey of the Hooded Plover *(Charadrius rubricollis)* is being planned for the weekend of October 18-19, in an attempt to estimate the Victorian population in the light of concern being expressed at an apparent decline in numbers. The Geelong area is important for the species and volunteers will be needed to walk beaches and survey other appropriate habitat in our area.

Participation in V.W.S.G. activities gives an opportunity to learn more about waders. These birds are often considered difficult to identify, and the netting and banding program gives the opportunity to examine them in the hand. Information being gathered through Group projects will help conserve

THE VICTORIAN WADER STUDY GROUP: ITS OBJECTIVES AND SOME RESULTS (continued)

the birds, for example, by showing which areas are significant for particular species. Group members enjoy themselves, too! But, to quote David Robertson:

> "above all we must never forget that no matter how much scientific information we obtain, no matter how much fun we have, we do it for the benefit of the birds. This means two things: the welfare of the birds always comes first, and we must be constantly alert for threats to the number and quality of wader habitat, for without habitat we shall have no birds".

(Editor's note: Most of the above information has been extracted from the Victorian Wader Study Group Bulletin 1 and 2, January and July 1980. I am grateful to the Group for permission to publish it here, and especially to Clive Minton for the additional summary of Victorian wader catches published as Table 1.)

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AN HOUR COUNT - NO. 33

MAGNETIC ISLAND, NORTH QUEENSLAND

Roy Wheeler

Townsville, the second city of Queensland, has a population nearing 80,000 and is already a large industrial centre. It is now rapidly expanding as a tourist centre, being the springboard for coastal and inland tours and for reef cruises amongst the North Barrier Reef islands.

Magnetic Island is the foremost of these, being Townsville's holiday and playground area, with one of the highest averages of sunshine hours in Australia. Townsville and Magnetic Island provide possibly one of the finest holiday resorts on the North Queensland coast. Magnetic Island is only eight kilometres from the mainland and there is a regular ferry service from Townsville. This island covers 51 square kilometres (20 square miles) and is composed mostly of granite outcrops which, with the hoop pines, provide a rugged and spectacular appearance. It has many fine beaches, including Picnic Bay, Nelly Bay, Arcadia Bay, Mary Bay, Cockle Bay and Horseshoe Bay. The highest peak on the island is nearly 500 metres (1628 feet) and most of the island is a National Park with many fine walking tracks. Besides the hoop pine, other trees are the weeping paperbark, dune sheoaks, Moreton Bay figs, poplar gum, Moreton Bay ash, grey bloodwood, cocky apple, native kapok, brush box, pandanus palms and mangroves. The bird population of the island is just over 150 species compared to Townsville's list of 270. The giant granite boulders of the island upset the compasses on the "Endeavour" when Captain Cook sighted the island in 1770; hence the name Magnetic Island. Mrs. Wheeler and I often visited the island. A lightning train strike stranded us for a day in Townsville: what better place could we spend it but on Magnetic Island? On my birthday in

AN HOUR COUNT - NO. 33 (continued)

1977 we again visited Magnetic as the guests of Graham and Jo Wieneke of Nelly Bay, and had a picnic lunch with birthday cake on their block at Horseshoe Bay. It was here we later did an hour count on a lovely fresh water lagoon; this was the last count Mrs. Wheeler took part in.

Magnetic Island, North Queensland. Horseshoe Bay lagoon November 6, 1977.

Fine and warm with a north-easterly breeze. 3.30 to 4.30 p.m.. Seated beneath the paperbarks and pandanus palms. Mrs. Jo Wieneke, Vera and Roy Wheeler.

Birds in order of sighting: Jabiru, 2; Black Duck, 20; White Egret, 3; Swamphen, 30; Dusky Moorhen, 12; Darter, 2; Nankeen Night Heron, 1; Peaceful Dove, 6; Rainbow Lorikeet, 10; Southern Figbird, 8; Welcome Swallow, 7; Whistling Kite, 2; Masked Plover, 4; Little Egret, 1; Plumed Egret, 1; Little Black Cormorant, 16; Royal Spoonbill, 1; Little Grebe, 2; Helmeted Friarbird, 4; Yellow-breasted Sunbird, 2; Varied Triller, 2; Torres Strait Pigeon, 10; Oriental Cuckoo, 1; Rock Dove, 2; Rainbow-bird, 16; Spangled Drongo, 1; Bar-shouldered Dove, 2; Black-faced Cuckoo-shrike, 3; Dollar-bird, 1; Laughing Kookaburra, 1; Pheasant Coucal, 1 and Pied Currawong, 1. Total 32 species and 175 individuals.

W.R. Wheeler, 59A Upton Road, Windsor, 3181.

BOOK REVIEW

GLADYS O'GRADY ACCLAIMED AS BIRD ARTIST

J.R. Wheeler

AUSTRALIAN BIRDS AND THEIR YOUNG: A PORTFOLIO OF PAINTINGS OF BREEDING SPECIES OF THE EASTERN STATES, by Gladys Y. O'Grady with text by Terence Lindsey. Cassell Australia, 1979. Pp 282, Col pll 74. 220 x 300 mm. $24.95 (recommended).

As long as I can remember, Gladys O'Grady of Grafton, now in her 86th year, has made birdlife her first love, and her skilled artistry in her first book of birds and their nests and young has revealed her talent.

The O'Grady family who lived on their farm on the banks of the Clarence River, which many times flooded their rich grazing flats, were all skilled with the paint brush, but until Gladys produced this book, had never sought any recognition in this field. In fact, the only talent which Gladys lacked was music, although the rest of the family were musical, having their own orchestra: piano, 1st and 2nd violins, and cello. She showed a great preference for birds, often sick and injured, and was frequently found wandering far from her home in search of her favourite subject. Camping with Gladys and her sister Doris at many 'birdo' campouts, I was convinced they both had wonderful talent, being able to paint from memory after studying their subject in the field in great detail.

The book contains 74 life-like paintings of 61 species, all depicting some aspect of the breeding cycle: nests, eggs, chicks, immature and nuptial plumages. For some species there is a series of paintings, for example, four plates show a pair of Brown quail with nest and eggs, very young chicks, chicks about a third grown, and finally immature birds. For some others, including

BOOK REVIEW: O'GRADY (continued)

Plumed egrets, Tawny fogmouths, and Black-faced cuckoo-shrikes, pairs of plates show the nest and eggs, and the chicks, or young birds at different stages of growth. The paintings are complemented by a page of text on each species, with information on distribution, habitat requirements, breeding, food preferences, etc..

Gladys O'Grady was indeed fortunate in choosing Terence Lindsey to give a true and accurate text for each painting. Terence is a freelance ornithologist, an Englishman born in the year 1941, educated in Canada, who came to Australia in 1969. He lives in Sydney, and works on the National Photographic Index of Australian Wildlife, and research at the Australian Museum.

Although this book of Gladys O'Grady's is the first collection of her work and represents only a small proportion of her output, I hope that this fine effort will be the fore-runner of others.

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EDITORIAL

The most important function of the *Geelong Naturalist* is the reporting and recording of the natural history of our own region. In these reports, such as those of the appearance of Pied Currawongs in Highton or the sighting of a Spectacled Monarch in the Ironbark Basin, it is appropriate that correct scientific nomenclature be used. The current authoritative list will be followed; for example, for birds, the R.A.O.U.'s *Checklist of the birds of Australia,* Part 1, 1975; *Interim list of Australian songbirds,* 1975; and *Recommended English names for Australian birds,* 1978. (For less formal articles, such as Joyce Hunt's description of Gang-gang behaviour, scientific language may not be necessary.)

In the following pages, Ted Errey shares his knowledge of the local sundews, Tony Bourne gives some insight into Deakin University's study of small mammals in the Anglesea area, and one of our younger members Michelle Francis shares her ideas on the place of insects in the world. Our Club has a varied membership, and the *Naturalist* needs contributions on all aspects of natural history, so that we can all share each other's special interests.

Margaret Cameron

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SMALL MAMMAL POPULATIONS NEAR ANGLESEA

Tony Bourne and Barbara Wilson

The south western half of Victoria is an important area for native mammals. The habitats of this region vary, from the tall wet forest of the Otway Ranges to the drier coastal heathland. About 35 species of native mammals inhabit this region including numerous species of small mammals.

The occurrence of one small mammal in particular makes the coastal heathland a habitat of special interest. It is here that one finds that rare marsupial mouse, the Swamp Antechinus *(Antechinus minimus)*. Although this animal is more common on the Bass Strait Islands (including Tasmania), it is rarely found on the mainland. Its mainland distribution is restricted to small isolated populations along the coast of Victoria.

The bushland which surrounds Anglesea is typical coastal heathland. The landscape is made up of tea trees, banksias and the coastal eucalypt.

We recently surveyed an area of coastal scrub near Anglesea and found 17 species of mammals. The most common small mammals were the Swamp Antechinus, its relative the Brown Antechinus *(A. stuartii)* and the Bush Rat *(Rattus fuscipes assimilis)*.

The breeding habits of these small mammals, especially the antechinus, are particularly interesting. The marsupial mice breed in winter, unlike the Bush Rat which breeds mainly in the warmer months. But the most notable feature of antechinus species is the dramatic way in which the males die out at the end of each breeding season.

Zoologists at Monash University have now established that the sudden death of the male antechinus is related to a general stress syndrome. It is thought that this may be brought about by the animal's extremely agressive mating behaviour.

SMALL MAMMAL POPULATIONS NEAR ANGLESEA (continued)

Studies of the reproductive ecology of these animals have been largely confined to forest-dwelling species such as *A. stuartii* and *A. swainsonii*. Until recently not much was known about *A. minimus* due to its relative rarity. But our study at Anglesea has established that the males of this species, like their commoner relatives *A. stuartii* and *A. swainsonii*, also die after mating.

The Swamp Antechinus is rather fussy about where it lives. It prefers to frequent areas of heathland where there is an abundance of grassy tussocks. And as its name suggests it is happier in the wetter parts of the habitat.

Our research group at Deakin University is currently making a detailed study of the ecology of the small mammals in the Anglesea area. One of our students, Rosalind Jessop, has been estimating the size of the populations of these animals. She has also been finding out how they manage to live together successfully in the same habitat.

The density of small mammal populations can be estimated by a regular trapping program. The first task is to measure and mark out a roughly square area of bushland. This area is then divided into rows to form what is known as a trapping grid. Traps are then placed at even distances along each row. The traps are usually baited with peanut butter and rolled oats, a mixture which appeals to the palates of the small mammals. All the sites on the grid are trapped over a period of four nights. This trapping procedure is carried out each month.

As each new animal is captured it is marked and released. When no new animals are captured one can then estimate the number of animals that live in the trapping area. But for theoretical reasons, too complex to deal with here, such trapping studies only give a fairly rough estimate of population size. We estimated that in one of our trapping areas (100 m^2) there were up to 20 Swamp Antechinus, 15 Brown Antechinus, and 10 Bush Rats. But the population size changes quite considerably during the year.

SMALL MAMMAL POPULATIONS NEAR ANGLESEA (continued)

Marking captured animals also makes it possible to keep track of an animal as it moves around the trapping grid. The journeys of the animals around their habitat are an important factor in the ecological relationships which exist between and within species. For instance there are short journeys which occur within the 'home range' of the animal. These are the normal day to day movements which are associated with foraging for food. Marsupial mice have a shorter home range (40-80 m) than do the Bush Rats (70-100m). The differences between the home ranges of small mammals probably helps to minimise the competition for space within a given area.

At certain times of the year these small mammals may also make much longer journeys. We think the competition (either within or between species) probably becomes too great and so some of the animals migrate to other areas. The marsupial mice may migrate up to 450 m, and the Bush Rats as far as 900 m.

The marsupial mice feed on insects, but bush rats also eat seeds and other plant material. There seems to be little competition for food between the Bush Rat and the antechinus.

The interrelationship between different species of small mammals is clearly a complex affair about which we know very little. Because of this complexity any disturbance of the environment may have quite profound effects on the survival of these animals. One unfortunate consequence of disturbance is that it often favours introduced species of mammals such as the House Mouse and Black Rat, at the expense of our native mammals.

The remaining natural habitats, which are close to centres of human activity such as Anglesea, face a constant threat of disturbance.

One of the benefits of detailed scientific studies of small mammal populations is that it can provide valuable information to assist the efforts to conserve our native species.

SMALL MAMMAL POPULATIONS NEAR ANGLESEA (continued)

Dr. Tony Bourne, School of Biological and Health Sciences, Deakin University, Geelong.

Barbara Wilson, School of Biological and Health Sciences, Deakin University, Geelong.

Swamp Antechinus *(Antechinus minimus)*
Photograph by P. Wilson

PLANTS THAT COMMIT INSECTICIDE

OUR LOCAL SUNDEWS

Ted Errey

Sundews may not be among the more conspicuous plants of our bushlands, but they are certainly a very interesting group, their reputation as insect catchers always attracting attention.

Of approximately 90 species in the world, Australia has 56, most of which are found in Western Australia. Eight of Victoria's nine kinds grow in our own bushland areas, though three of these are not widespread. Alpine Sundew is the one species we do not see locally.

Though some are very tiny plants, sundews are readily recognized by their sticky glistening leaves specially designed to trap insects attracted by the obvious moisture. The leaves, and in some species the upper stems and sepals, have on their surfaces fine tentacles tipped by glands that exude a sticky substance to hold the victim, and digestive fluids that eventually dissolve the soluble portions.

These leaves are not simply passive traps. All tentacles are sensitive to impulses from their neighbors on the leaf, and when an insect becomes entangled, the nearby tentacles bend to help secure it, the whole leaf soon folding to wrap up the meal. After a few days, when the glands have absorbed the nourishment, the leaf opens to release the dried remnants, soon assuming its former position and stickiness in readiness for the next visitor.

Not only midges and mosquitoes are snared by these devices. Butterflies, wasps and similar large insects can be held by the stickiness of these plants. It is thought that sundews use this method of supplementing their diet to make up for nitrogen or other deficiencies in the soil. Though wet situations are favored by some species, such as Forked Sundew, which grows in some swamps and gutters of the Otways, many

PLANTS THAT COMMIT INSECTICIDE - OUR LOCAL SUNDEWS (continued)

thrive in dry places, even in the arid central and western parts of our continent.

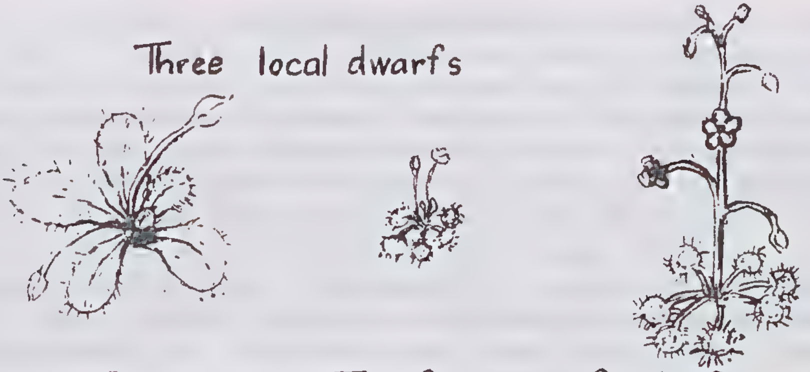
Our eight species can be divided into three groups. Four small species grow all their leaves in a basal rosette, and their flowers on leafless stems. Three taller ones (to 50 or 60 cm.) have basal rosettes that in some cases wither as the upright stem develops. Most of the leaves are scattered, alternately or in groups of three, along the slender stems. Forked Sundew, another taller species, also has basal leaves, but these divide wishbone-style into narrow segments on the ends of smooth stems. The divided leaves are covered in sticky glandular hairs in the same manner as the leaves of the other species.

Most common of the small group is Scented Sundew *(Drosera whittakeri)*, which in places carpets the bare ground with rosettes of green or red leaves. In late winter the white flowers, two or three centimetres across, almost hide the rosettes. Individual leaves are spathulate, or spoonshaped, the bowls tapering into the short stems. In similar situations on damp soil are the smallest of our species, Tiny Sundew *(D. pygmaea)*, which are widespread but easily overlooked because of their minuteness. The plants, often less than a centimetre across, have tufts of silvery grey stipules in the centre of the rosettes of 2 mm. red leaves. Tiny four-petalled flowers grow singly on threadlike stems to 2 cm. long. These plants are often numerous where conditions suit. In Scarlet Sundew *(D. glanduligera)*, the leaf blades are round, on slender stems. The scarlet flowers are often quite numerous on stems 5 or 6 centimetres tall. This is in places a very common plant. Rosy Sundew *(D. spathulata)*, is the least common of our sundews. Its pink flowers appear on a curved, one-sided spike 5 or 10 cm. tall. It has been listed from Chapple Vale, in the Otways, but may be more widespread in swampy places.

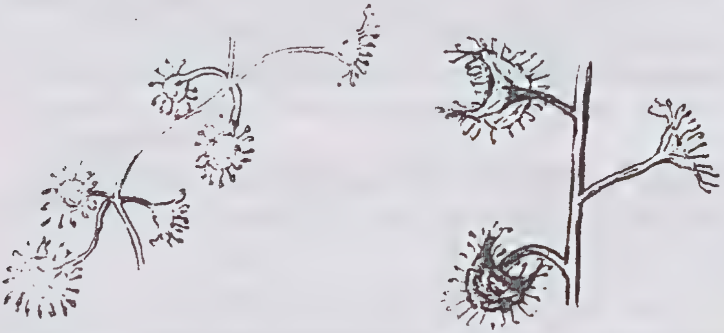
Of the three taller species, Climbing Sundew *(D. planchonii)* attracts our attention as its slim stems twist upwards among the surrounding plants. The round sticky golden leaves are

PLANTS THAT COMMIT INSECTICIDE - OUR LOCAL SUNDEWS (continued)

Three local dwarfs



Scented Sundew Tiny Sundew Scarlet Sundew

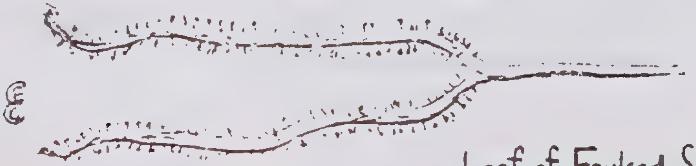


Stem Sections showing Leaf shape and arrangement

Climbing Sundew Tall and Pale Sundews

Pale Sundew - Hairy Sepals

Tall Sundew - Smooth Sepals



Leaf of Forked Sundew.

PLANTS THAT COMMIT INSECTICIDE - OUR LOCAL SUNDEWS (continued)

grouped in threes on threadlike pedicels, the central one of which is usually twice the length of the others. The leaves of Tall Sundew *(D. auriculata)* and Pale Sundew *(D. peltata)* mainly grow singly on the lower stem and in threes on the branched upper section. Their stouter stems are able to stand alone. Each leaf is crescent-shaped, with two pointed lobes. The former species is more common than the latter, and its calyx is smooth, while on *D. peltata* and *D. planchonii* the calyxes are hairy. Flowers of *D. peltata* are rarely found open except at midday on very sunny days. All three species in the group have leaves attached to stems by the centre instead of the edge.

The remaining member of the genus, Forked Sundew *(D. binata)*, grows in wet shady spots and can readily be recognized by its divided leaves. The clusters of conspicuous white flowers appear on stalks to 30 cm. long in spring and summer.

E.G. Errey, 3 Leonard Street, Belmont, 3216.

A WORLD WITHOUT INSECTS

Michelle Francis

Most people believe all insects are pests and need to be killed. If a spray was to be invented that was deadly to all insects but harmless to other creatures, and the entire world was sprayed, would we be better off?

Insects are responsible for conveying many serious diseases as well as the milder effects of the destruction of food, and furniture.

Serious diseases conveyed to man by insects include:

Typhoid - conveyed from the sick to the healthy by means of lice, fleas, ticks, and mites.

Malaria - the malarial parasite is conveyed to may by the bite of the female mosquito of the genus *Anopheles*.

Bubonic plague - caused by bacillus found in rats which is conveyed to man by the bite of the rat flea.

Yellow fever)
Dengue fever) - conveyed to man by the culicine mosquito *Aedes oegypti*.

Phlebotomus fever (sandfly fever) - conveyed to man be the sandfly.

African Trypanosomiasis (sleeping sickness) - conveyed to man by various tsetse flies (genus *Glossina*).

Bacillary Dysentery - would not totally disappear, but occurence would be greatly lessened, as the major mode of spread is the contamination of food by flies.

Amoebic Dysentery - caused by a parasite known as the *Entamoeba histolytica*.

A WORLD WITHOUT INSECTS (continued)

If there were no insects, there would be many small benefits. Clothing, carpets and furniture would all last longer as there would be no insects such as silver fish, carpet-beetles and termites to attack them.

On picnics and barbecues, we would no longer be annoyed by ants, flies, and mosquitoes.

Without all the crop-destroying insects, more grain would be harvested, less would be lost in storage, therefore the price of grain would fall.

Without insects, there would be more food for sheep and cattle as they would no longer have to share their food with insects. The sheep and cattle would fatten faster and cows would produce more milk. Meat and milk would become cheaper.

The price of leather goods would go down. This is because there would be no warble holes in hides to spoil the leather. Warble holes are caused by parasitic fly maggots that live under the skins of animals and puncture them with holes through which they breathe.

Unfortunately, many people are not aware of the desirable, if not necessary, activities of insects.

Without insects there would be few fruits and vegetables. Most plants require bees, butterflies, moths, flies, beetles and other insects to pollinate them. Only a few plants can fertilize themselves. If there were no insects, the flowers would not be pollinated so the plants would not develop any fruit or seeds. We would not have apples, pears, apricots, strawberries, oranges, grapefruit, lemons, mandarines, nectarines, peaches, plums, beans, peas, pumpkins, cucumbers, marrows, tomatoes, beetroot, parsnips, silver beet and other fruit and vegetables which depend on insects to pollinate their flowers.

A WORLD WITHOUT INSECTS (continued)

We would still have cereal crops such as wheat, corn, rice, barley and oats as they are wind-pollinated. Grass would still be in abundance as it is also wind-pollinated.

People would turn to eating foods which were once unusual such as sea-weed. Scientists would have to experiment with numerous things which were never before eaten to see if they could make them edible.

We would be without chocolate, vanilla, tea, coffee, herbs, spices, and thousands of other luxuries we take for granted.

We would also be without:

Cotton - which is the seed hair of a group of plants in the mallow family, *Gossypium*, whose flowers must be pollinated by insects before seeds will develop.

Silk - which is made by the silk-worm in the formation of their cocoons.

Linen - which comes from the fibres of the Flax plant which requires insects to pollinate the flowers before seeds will develop.

We would be without honey and beeswax. In some countries, people eat insects. Roast termites are eaten by the South Africans and Mexicans eat cakes made from the eggs of water-boatmen. Fried caterpillars, witchetty grubs, and chocolate-covered bees and ants are eaten by people of various countries.

All the birds that have lived on a diet of insects would starve to death. Those who have lived on seeds and berries would have less food and would have to survive on grasses. Fish, frogs, lizards, spiders, skunks, echidnas and other insect-eating creatures would all perish as there would not be enough worms, centipedes, slugs, millipedes and snails to go around. The creatures that prey on insect-eaters would also find their food becoming scarcer and would either

A WORLD WITHOUT INSECTS (continued)

die of starvation or have to adapt to eating a different type of food. The herbivores would be able to survive as they would have an abundance of grasses which are wind-pollinated, so we would still have sheep and cattle to feed and clothe us.

Many people would be unemployed. All those people who grew fruit, vegetables, flowers and other products which required insect-pollination and all those people who worked in processing industries would be out of work. Many large firms who produced insecticides would go out of business. Entomologists (people who study insects for a profession) and makers of insect-screens would also be out of a job.

Insects help in the decomposing of dead bodies of animals, the waste products of living animals - moulted skin, feathers, hair and faeces - leaf litter, dead wood and fallen fruit. Without insects, the smells, carcasses and plant matter would take longer to disappear. Some insects which help in the decomposing process are cockroaches, crickets, termites, rove-beetles, larvae of the *Dermestes* beetles, ants, the larval stages of flies and beetles, and dung-beetles.

Even the very soil would be different. Since plants depend upon the soil, and animals upon plants, this change could be the worst of all. Air is mostly nitrogen, but as very few organisms can use the nitrogen directly from the air, it must be combined with other elements. Apart from lightning, the only things in nature that can do it are "nitrogen-fixing" bacteria which live in bead-like swellings called *Nodules* on the roots of *Legumes* which are plants belonging to the Clover family.

These bacteria take nitrogen from the air and use it in building up their own bodies. When they die and decay, the nitrogen, combined with other materials from the bacteria, is left in the soil. In this form, it can be used by other plants, and by the animals that eat the plants

A WORLD WITHOUT INSECTS (continued)

and so on up the food chain. Soil from which nitrogen is removed and not replaced is soon "worn-out", and plants will no longer grow in it. As legumes are insect-pollinated, the soil would become poorer, the plants would become fewer and some species would die out. Animals which lived on those plants would also become scarce or extinct.

No insects means starvation, very few jobs, little variety in meals and even possible extinction of the human race. The world is indeed fortunate that a deadly insecticide has not yet been invented.

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LITTLE STINT (CALIDRIS MINUTA) AT MELBOURNE & METROPOLITAN BOARD OF WORKS FARM, WERRIBEE.

Julie Strudwick

A Little Stint *(Calidris minuta)* was captured in a cannon net by the Victorian Wader Study Group at the Austin Road Lagoon on the Melbourne & Metropolitan Board of Works Farm, Werribee, on 17th November 1979.

Bill: slightly down curved
Length 19 mm
Depth at front of nares 3.6 mm
Width at front of nares 2.8 mm

Wing Length: 103 mm

Tarsus: 24.1 mm

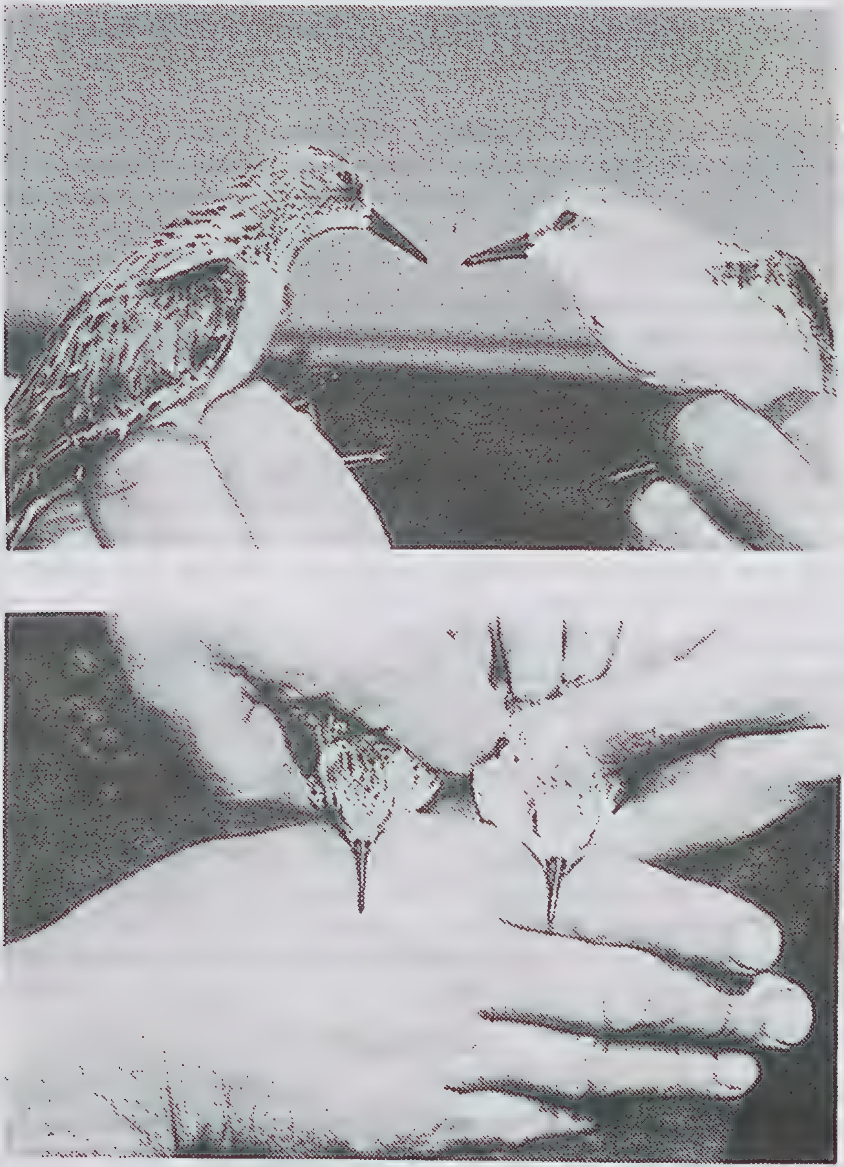
Weight: 36 grams

Legs: Black

Moult: All primaries were new and showed very little abrasion. The bird was well into breeding plumage with distinctive spotting on the neck and upper breast.

Julie Strudwick, RAOU, 21 Gladstone Street,
Moonee Ponds, 3039.

LITTLE STINT (CALIDRIS MINUTA) AT MELBOURNE & METROPOLITAN BOARD OF WORKS FARM, WERRIBEE (continued)



Little Stint and Red-necked Stint
Photographs by J. Strudwick

A SPECTACLED MONARCH (MONARCHA TRIVIRGATUS) AT THE IRONBARK BASIN, POINT ADDIS, VICTORIA

Brian W. Finch, Tim Kenney, Margaret Cameron

At approximately 9.30 a.m. on 4 December 1977, Brian Finch, Tim Kenney, John James and Margaret Cameron were searching among tall ironbarks, stringybarks, and other eucalypts on the northwest slope of the Ironbark Basin, Point Addis, for a pair of Powerful Owls *(Ninox strenua)* known to be in the area. There were many Satin Flycatchers *(Myiagra cyanoleuca)* in the trees, including at least one pair with a nest. Associating with this pair was a single Spectacled Monarch *(Monarcha trivirgatus)*.

The bird was first observed from behind, but it flitted and moved around among the foliage and branches, permitting views from both sides and from below, for some ten minutes. When it was first observed it was just above eye level and approximately 20ft away, but mostly it was higher in the trees and up to 60ft away. The light was good and there was no wind. Binoculars used were as follows: BWF 10 x 50 Swift, TK 11 x 60, MAC 8 x 30.

Field notes as follows were taken at the time:

> Roughly the same size as a Satin Flycatcher but more slender. Dark grey back. Almost black tail with white outer tail feathers, the white coming almost halfway up the feathers from the tip. Black face, black round the eye, orange on neck and breast. Pale fawn-grey on lower abdomen.
> The bird did not call.

Three of us, BWF, TK and MAC, were already very familiar with the Spectacled Monarch. BWF had that week returned from 2 days in Cairns and on the Atherton Tableland where it is common, and had also seen it on previous visits to the North. TK lived in Brisbane for several years and had also observed it in North Queensland. MAC had observed it on 2 visits to North Queensland including 2 weeks at Iron Range where it is

A SPECTACLED MONARCH (MONARCHA TRIVIRGATUS) AT THE IRONBARK BASIN, POINT ADDIS, VICTORIA (continued)

common. JJ had never seen it before, and identified it without prompting from Slater (1974) and *Every Australian bird illustrated* (1975).

There is no local species with which the Spectacled Monarch could have been confused, as the orange and black face pattern and the white tips to the outer tail feathers are diagnostic.

The southern limit of the Spectacled Monarch is given in McGill (1960) as Wallis Lake, but Officer (1969) extends this distribution as far south as Burrill Lake, south of Ulladulla, N.S.W.. This appears to be first record for Victoria.

We are grateful to Terry Lindsey for commenting on the manuscript.

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Brian W. Finch, P.O. 496, Port Moresby, Papua New Guinea
Tim Kenney, 3/36 Findlay Avenue, Roseville, N.S.W., 2069.
Margaret A. Cameron, 4 Connor Street, East Geelong, 3219.

PIED CURRAWONGS IN HIGHTON

Ray Baverstock

Pied Currawongs *(Strepera graculina)* were seen in Highton on several occasions in 1979-80.

Late in 1979 we heard them on one or two occasions, and Paul Moore and his sister Leanne who live nearby had fed a small group of Currawongs on their front lawn.

On 13th April 1980, 3 Pied Currawongs flew over our home, 4 were sighted on 9th June, and 4 again on 18th June.

On the last two occasions they were flying in a westerly direction so presumably they had also been flying over Belmont. Another group was heard from the direction of "Shoubra" on 6th July 1980, and a solitary Pied Currawong was seen to land in a Grevillea Robusta on 8th July. This bird seemed to be involved in a skirmish with some Red Wattlebirds *(Anthochaera carunculata)*. It flew from the Grevillea into the pine trees behind our home and then into a large eucalypt, all the time making rather aggressive noises. It finally quietened down and then flew off in a westerly direction.

R.P. Baverstock, 13 Helena Street, Highton, 3216.

A RECORD OF THE SCALY-BREASTED LORIKEET FOR GEELONG, VICTORIA

Lawrie Conole

When cycling past Peppercorn trees near the Princes Bridge in Belmont, Geelong on May 25, 1980, I was attracted to the trees by the calls of Rainbow Lorikeets *(Trichoglossus haematodus)* and a similar but more high pitched call. The other call was definitely not the Musk Lorikeet *(Glossopsitta concinna)*, Purple-crowned Lorikeet *(G. porphyrocephala)* or the Little Lorikeet *(G. pusilla)* I decided as I approached the tree. When I first sighted the smaller green lorikeets amongst the Rainbow Lorikeets however they appeared to be the size of Musk Lorikeets. On closer examination, the red head markings and yellow patches on the sides of the breast indicative of the Musk Lorikeet were absent; instead, the birds were green all over with a conspicuous red bill and yellowy scaly markings on the breast. They were in fact Scaly-breasted Lorikeets *(Trichoglossus chlorolepidotus)*, two amongst five Rainbow Lorikeets.

The Scaly-breasted Lorikeet is common in most timbered areas of eastern Australia from Cooktown, Qld. to Illawarra, N.S.W.; also on some offshore islands. It is generally confined to coastal plains and adjacent tablelands, but is occasionally found along watercourses west of the Great Dividing Range. Abundant and mostly sedentary in north, it is less numerous and nomadic in south; it favours open, lightly timbered areas and Melaleuca thickets (Forshaw 1976).

The Scaly-breasted Lorikeet is recorded for Mount Eliza, Mordialloc, Keysborough, Frankstown, Beaumaris, Lower Plenty and East Oakleigh in the Melbourne area by Mitchell (1979).

It is a commonly held opinion that these birds are aviary escapees; in addition to Scaly-breasted Lorikeets, Melbourne supports a wild population of Red-collared Lorikeets *(Trichoglossus haematodus rubritorquis)* and interbreeding occurs between Scaly-breasted Lorikeets, Rainbow

A RECORD OF THE SCALY-BREASTED LORIKEET FOR GEELONG, VICTORIA (continued)

Lorikeets, Red-collared Lorikeets, Musk Lorikeets - apparently caused by the retention of all these species in a small area, by nectar feeders and the like in suburban gardens (Pizzey 1980).

The Scaly-breasted Lorikeet is recorded from Newtown here in Geelong, in company with Rainbow Lorikeets by Theo Trickett (1979).

John Pratt *(pers. comm.)* saw 1 Scaly-breasted Lorikeet on 22 June 1980 at Thacker Street, Ocean Grove.

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Lawrie Conole, 85 Clarence Street, Geelong West, 3218.

MORE ON SUBURBAN BIRDS - NEWTOWN, GEELONG

Theo Trickett

The two Scaly-breasted Lorikeets *(Trichoglossus chlorolepidotus)* which so unexpectedly arrived to feed at our nectar containers came in regularly several times a day either on their own, or at the same times as the Rainbow Lorikeets. They remained until 1st February 1980, when they were seen feeding at the nectar bottle: the date of departure from the garden is accurate, because one expected them to depart at any time to their own northern range.

However, the two returned on 12th April 1980, and fed several times each day until they departed on 18th April 1980.

One wonders what other birds the Rainbow Lorikeets will bring in - first Musk Lorikeets, then Scaly-breasted!

September 1979 to January 1980 saw various new baby Red Wattlebirds *(Anthochaera carunculata)* around, and on 21st November one was standing with both feet on the nectar pot, and was therefore unable to find the nectar!

The first Black-faced Cuckoo-shrikes *(Coracina novaehollandiae)* were noticed here in January 1979, and there were two of these attractive birds regularly around eucalypts in neighboring gardens from December 1979 through to March 1980.

We were also surprised and delighted to have two Restless Flycatchers *(Myiagra inquieta)* in our Cootamundra wattle and nearby eucalypts early in March 1980.

The Rufous Fantail *(Rhipidura rufifrons)* called in again on the morning of 31st March 1980, and also on 2nd April 1980 - this beautiful visitor did not pay us a visit last year, but we had been watching out for him from about 15th March, in case our garden had become a point on his migratory route.

MORE ON SUBURBAN BIRDS - NEWTOWN, GEELONG (continued)

We have not had the male Golden Whistler *(Pachycephala pectoralis)* in the garden (yet), but the female was frequently about in April and early May this year, as in previous years.

One of the pleasures of our garden birds has been the Song Thrush *(Turdus philomela)*, but it was silent from July 1979 until late November and December. Normally running about the garden, or bathing in one of the bird-baths, it has been absent for most of this year to date (May 1980). So we'll be listening for that strong and melodious call in late June. The Grey Shrike-thrush *(Colluricinela harmonica)*, however, has been frequently seen and heard.

Calls of Spotted and Striated Pardalotes *(Pardalotus punctatus and P. striatus)* are often heard here, but they are rarely seen within a few feet. So it was a great pleasure to have a beautiful little male Spotted Pardalote busily investigating a spider's web and a fluttering leaf on the corner window ledge of the kitchen. Apparently he couldn't see the observer's face, inches away behind the glass. His mate was only two or three feet away in the silver birch.

It's interesting that Yellow-faced and White-naped Honey-eaters *(Lichenostomos chrysops* and *Melithreptus lunatus)* and Eastern Spinebills *(Acanthorhynchus tenuirostris)* all seem to arrive at much the same time, in Autumn. They all approve of the nectar feeder.

About seventeen years ago, before there were many houses in this area, there used to be a great number of resident Kookaburras *(Dacelo novaeguineae)*; then they seemed to disappear until a few years ago, and now over the last year or so their cheerful voices are often heard in the mornings and evenings.

Mr. N. Povey's nectar bottle and stand, located in full view of the kitchen window, has been a constant source of pleasure - somewhat tempered by the misfortune of being

MORE ON SUBURBAN BIRDS - NEWTOWN, GEELONG (continued)

too popular with the Red Wattlebirds, some of whom were newly fledged and flying when it was put up, and the young simply glued themselves to it. However, the pecking order still applies, and when the Rainbow Lorikeets call in, they pause for only a minute or so before drinking. When the stand is clear of the bigger birds, the resident New Holland Honeyeaters *(Phylidonyris novaehollandiae)* and White-naped Honeyeaters often group 10 or 12 to feed from the bottle. The nectar recipe is - 1 lb. raw sugar to 1 pint of hot water: into a saucepan, and over a high flame stir until the sugar is dissolved - it takes only a few minutes. Allow to cool, and add three or four drops of Pentavite. To one part of this heavy syrup add two parts of water when putting into the nectar containers. The syrup keeps well in the refrigerator.

It was unfortunate that some young Starlings *(Sturnus vulgaris)* found the dripping bag of the Silvereyes in the hakea last November. One Silvereye *(Zosterops lateralis)* was recently found dead at the foot of the tree - with an obvious pick mark at the back of the neck. The pecking order for the dripping bag is now - Starlings (gobbling, bullying) then whoever else arrives - and apparently Tree and House Sparrows *(Passer montanus* and *Passer domesticus)* and Silvereyes can all feed amiably together.

About twenty Gang-gangs *(Callocephalon fimbriatum)* fly away over the garden in the early mornings, and return at dusk to roost in a neighbor's very tall eucalypt, or in the trees at the edge of Fyans Park. Frequently one or two drop out of the fly-past and drink at the furthest bird-bath on the lower back lawn.

What a constant pleasure a garden full of birds is - and what amazing changes can occur with the changing seasons, under one's very nose!

Mrs. T. Trickett, 37 Craigie Road, Newtown, 3220.

GANG-GANGS IN THE WESTERN CEMETERY

Joyce Hunt

It was in mid February 1980 that they arrived; about 5 at first, but over the weeks the numbers have varied from flocks of 7 to over 30. The main attraction seems to be the cypress "nuts", for the cemetery paths are strewn with open nuts and bits of foliage.

From early morning until sunset the raucous cries can be heard, but particularly at the end of the day when they are seeking a place to sleep: two or three gum trees seem to be their preference. There is a great deal of squarking and noise as they sort out their respective sites. The din increases when, as sometimes happens, they are pestered by the magpies who seem to think that the place belongs to them; and frequently it's even worse when the wattle birds become aggressive.

What handsome creatures these Gang-gangs are; flying low over our garden, the marking under the wings can be seen; sitting on the rotary clothes line they can be closely observed, and they do not seem to mind our coming within 2 or 3 metres when they are feeding on our cotoneaster berries. Perhaps the loveliest sight is when they are perched near the top of the gum trees and the setting sun lights up their brilliant heads with gorgeous colour.

Frequently they hang upside down as they feed, with occasional wing movements; and several times I have noticed strange behaviour in which one bird is a foot or two above another, and they stretch out until their heads touch. Whether they are "kissing" or feeding each other is unknown, but the lower one then does quite a lot of wing-flapping.

There is a tripod of 3 tea tree sticks (for climbing beans, and later for sweet peas), but the Gang-gangs evidently thought it was put there for their benefit as they frequently stand on the top awaiting their turn to drink at our large bird bath. More than once there have been 2 birds waiting, one on top and one on the side.

GANG-GANGS IN THE WESTERN CEMETERY (continued)

At the time of writing - end of June - they are still here, and as the supply of nuts seems abundant and the cotoneasters are still heavy with berries, we wonder how long it will be before they decide to go home to the Otway forest.

Joyce Hunt, 3 Perry Court, Herne Hill, 3218.

BLACK KITE (MILVUS MIGRANS) AT INVERLEIGH COMMON, VICTORIA

Lawrie Conole

On 30 September 1979, there was a Bird Study Group excursion to Bannockburn Plantations and the Inverleigh Common.

At about 1600 hours I was in the area adjacent to the bracken covered basin on the east side of Common Road. A large, dark raptor flew over the treetops and when it came into view I identified it as a Black Kite *(Milvus migrans)*. It was close in size to the Whistling Kite *(Haliastur sphenurus)* which is common in the area but was very much darker - almost black. It held its wings flat in gliding flight like the Little Eagle *(Hieraaetus morphnoides)* and not bowed like the Whistling Kite. The tail was long and flared out to the end where there was a slight fork; not short and square like the Little Eagle or long, parallel sided with a rounded end like the Whistling Kite. It flew out of view very soon after identification.

On 12 April 1980, when in the area of the tip on Inverleigh Common I saw a Black Kite soaring in large circles over the area moving slowly west. The bird was in view for a much longer period but the same characters were used for identification.

The sighting of a Black Kite in the Geelong district is an indication of how harsh and dry the inland must be; Trevor Pescott *(pers. comm.)*.

Geoff Gayner *(pers. comm.)* remarked that he sees Black Kites on a fairly regular basis around his home at Lara near the You Yangs.

The distribution of the Black Kite in Victoria is generally north of the Divide and western Victoria but it is nomadic to some extent and can occur in southern Victoria in numbers ranging from individuals to full scale invasions.

BLACK KITE (MILVUS MIGRANS) AT INVERLEIGH COMMON, VICTORIA (continued)

For a review of its status in the Geelong area, I should welcome reports of sightings.

Lawrie Conole, 85 Clarence Street, Geelong West, 3218.

PRELIMINARY NOTICE

IDEAS FOR ORNITHOLOGICAL RESEARCH IN THE EIGHTIES

VORG CONFERENCE

Melbourne, 24-26 July, 1981

The Victorian Ornithological Research Group will be holding a Conference in Melbourne over the weekend 24-26 July 1981, on the theme of Ideas for Ornithological Research in the Eighties.

If the price of petrol continues to rise, the title may be Bird Study Close to Home - which would then be another way of expressing the theme.

All interested persons are invited to attend the Conference. It is hoped that further details will appear in a later issue of this journal; in any case they may be obtained from the address below.

VORG Conference Secretariat
P.O. Box 203,
SOUTH MELBOURNE, 3205.

Rosemary Balmford
Secretary, VORG.

AN HOUR COUNT - NO. 34

LAKE BROADWATER, DALBY, QUEENSLAND

Roy Wheeler

I first visited Dalby in Queensland in April 1979 whilst on my trip around Australia chasing a record bird count for one year. Situated 218 kilometres west of Brisbane, it has a population of nearly 10,000 and is the most populous centre on the rich and famous Darling Downs. It is also the grain centre of Queensland, and the Wambo-Dalby sale yards are the largest in Queensland, selling nearly half a million animals each year, mostly sheep.

Dalby was founded in 1841 when Henry Dennis pitched camp on the Myall Creek. He was the first white settler in the area and where he crossed the creek was known as "The Crossing". It became a favorite stopping place of the teamsters with their great lumbering waggons with huge loads. "The Crossing" is just below the present site of the Edward Street Weir and a suitably inscribed memorial now stands in the area. Nearby, the first hotel, the Plough Inn, was built and around it the early buildings were shacks, humpies and bark huts. Since those early days Dalby has become a town of fine buildings, and the wide main street, Cunningham Street, has many fine shops - all that is needed for a modern town. The Dalby Agriculteral College has been built near the town and will eventually cater for up to 150 students. The first railway came there in 1868, and Dalby is the fifth busiest station in Queensland. The prickly pear threat of the late 1920's was averted by the introduction of the insect Cactoblastis and the pear was eaten out completely within a few years.

Lake Broadwater, where we did an hour count, is approximately 20 kilometres south-west of Dalby near the Moonie Highway. It is a fresh water lake, circular in shape, and covers 384 hectares. It is a very popular spot in the summer months and is used extensively for water sports. The bird life usually keeps to the shallow end of the lake and to a

AN HOUR COUNT - NO. 34 (continued)

certain extent lives in harmony with the skiers. The lake was originally owned by two properties with the dividing fence across the middle of the lake. The two owners died within five days of each other and both families put the properties on the market. The Dalby branch of the Wildlife Preservation Society of Queensland informed the National Parks and Wildlife Service and the relevant government ministers, and in due time the two properties were purchased by the Queensland State Government in 1978. Eventually the lake and its surroundings will be gazetted as an Environmental Park. Already a ranger is in residence and plans are under way for an Educational Centre for children to be built there.

Before the white man this lake must have been a wonderful camp site for the aborigines, and many stone axes and pounding and grinding implements have been found there. Lake Broadwater has been dry three times in living memory and at present (1980) is very close to drying up again.

This Lake Broadwater hour count has the largest number of species since I started the series in 1972. You must sit in one spot for an hour and count every species of bird, and all individuals, within hearing and binocular range.

Lake Broadwater, Dalby, Queensland. April 24, 1979.

Fine and sunny and no wind. 4 p.m. to 5 p.m. Malcolm Wilson and Roy Wheeler, seated by a fallen tree at the shallow end of the lake.

Birds in order of sighting: Yellow-billed Spoonbill, 2; Royal Spoonbill, 3; Grey Teal, 150; Pelican, 110; Black Duck, 32; White-headed Stilt, 40; Coot, 5; Little Grebe, 2; Wood Duck, 61; Great Crested Grebe, 1: Silver Gull, 23; Hardhead, 2; Black-fronted Dotterel, 25; Spurwinged Plover, 22; Black Cormorant, 21; Little Black Cormorant, 20; Musk Duck, 2; White-faced Heron, 12; Magpie Lark, 12; Pied Cormorant, 20; Sharp-tailed Sandpiper, 9; Whistling Kite, 2; Starling, 23; White-breasted Sea-eagle, 2;

AN HOUR COUNT - NO. 34 (continued)

Scaly-breasted Lorikeet, 12; Grey-crowned Babbler, 6; Darter, 5; Crow, 12; Galah, 66; Hoary-headed Grebe, 6; Raven, 1; Noisy Miner, 10; Blue-faced Honeyeater, 1; Crested Pigeon, 2; Little Lorikeet, 3; Cockatiel, 38; White Cockatoo, 2; Little Friarbird, 7; Pale-headed Rosella, 6; White Egret, 1; Pied Butcherbird, 1; Little Pied Cormorant, 1; Black-backed Magpie, 1; Willie Wagtail, 2; Welcome Swallow, 2; Noisy Friarbird, 1. Total 46 species and 786 individuals.

P.S. I would like to thank Malcolm and Marjory Wilson of Dalby for their help regarding Dalby and Lake Broadwater information.

W.R. Wheeler,59A Upton Road, Windsor, 3181.

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Hon. Editor,
Margaret Cameron,
4 Connor Street,
East Geelong, 3219.

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* * *

EDITORIAL

This issue contains the first report of the Mammal Study Group of the Geelong Field Naturalists' Club, which illustrates the contribution that amateurs can make to knowledge by systematic observation, careful recording, and publication of results so that others can learn from our efforts.

Other Club activities should be reported. This depends on excursion leaders providing reports like Gwen Yarnold's plant list.

The final article in this issue was contributed by a visitor to Geelong, Roger Guard, in the hope that his account of butterfly-breeding in his Cairns garden would inspire local naturalists to follow his example - and report the results.

Margaret Cameron

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- 5 JUN 1981
VICTORIA

MAMMALS OF THE BRISBANE RANGES
PRELIMINARY FINDINGS - ANAKIE GORGE

Lawrie Conole for the Mammal Study Group,
Geelong Field Naturalists' Club

Introduction

This paper reports observations of the Mammal Study Group of the Geelong Field Naturalists' Club, and is being published primarily as a note to the mammal survey of the Brisbane Ranges conducted by the Mammal Survey Group of the Field Naturalist Club of Victoria in 1968 to 1969 *(Vict. Nat. 88:62-70)*. The latter paper gives a good general description of the Brisbane Ranges and is recommended for reading in conjunction with this one.

No trapping has been carried out to date - hence the heading of preliminary findings. In the period from August 1979 to October 1980, the Mammal Study Group of the Geelong Field Naturalists' Club carried out 9 spotlight surveys in the Anakie Gorge area of the Brisbane Ranges National Park. It is intended to carry out surveys in more locations within the area of the ranges prior to publishing more comprehensive results.

Area Surveyed

The survey area is, generally speaking, the entire Anakie Gorge system. From the Lower Stony Creek Dam at one end to the picnic ground at the Anakie - Bacchus Marsh Road end has been surveyed.

The gorge has the most lush plant community in the Brisbane Ranges. A tall open woodland of Manna Gum *(Eucalyptus viminalis)*, Blackwood *(Acacia melanoxylon)*, Prickly Moses (*A. verticillata*) and Black Wattle *(A. mearnsii)* with ground cover of *Poa spp.* is a feature of the flat-bottomed gorge. Along the creek are dense thickets of Woolly Tea-tree *(Leptospernum lanigerum)* and Swamp Bottlebrush *(Callistemon paludosus)*. An open woodland of Messmate Stringybark

MAMMALS OF THE BRISBANE RANGES, PRELIMINARY FINDINGS - ANAKIE GORGE (continued)

(E. obliqua), Red Stringybark *(E. macrorhyncha)* and Red Box *(E. polyanthemos)* with ground cover of *Poa spp. and Danthonia spp.* clings to the steep slopes.

Method

An area of 1-2 km was walked in both directions on each survey. Three spotlights were generally used and each spotlighter carried a pair of binoculars of 7 or 8 times magnification. A walking track runs down the centre of the gorge beside the creek for its entire length, which facilitates a consistent and thorough coverage for spotlighting. Access to areas off the track was easy, and all specimens could be examined at close range if necessary.

Results

The total survey effort is summarized in Table 1. Table 2 is a systematic list of all the mammal species recorded, and Table 3 is an analysis of the results in a form suitable for comparison with other surveys.

Table 4 and 5 are summarized data from the Mammal Survey Group report of the 1968-69 survey.

Notes on Species Recorded

1. Short-beaked Echidna *(Tachyglossus aculeatus)*
   Although this was the only Monotreme recorded in this survey, the Platypus *(Ornithorhynchus anatinus)* is known from the Moorabool River in the western end of the ranges.

   The Echidna must be regarded as uncommon in the survey area, as the specimen recorded in this survey is my only record after years of wandering through the area.

2. Common Brushtail Possum *(Trichosurus vulpecula)*
   This species is only locally common in the ranges. It is generally found in small localized groups in the

MAMMALS OF THE BRISBANE RANGES, PRELIMINARY FINDINGS - ANAKIE GORGE (continued)

gorge. Cranial material was found in some nearby heathy woodland, far from the old hollow trees it usually needs. A female with half-grown young was noted in survey 9.

3. Common Ringtail Possum *(Pseudocheirus peregrinus)*
This species appeared to be the most abundant of all mammals observed in the survey, following a similar trend in other areas we have surveyed in Victoria. Most commonly seen in trees above dense thickets, it also ranges well up into the open woodland with no understorey.

4. Sugar Glider *(Petaurus breviceps)*
One specimen was seen in a Manna Gum during survey 2 and one called persistently throughout survey 5. As the species is generally common but rarely seen, it is possible that the species is well established in the survey area.

5. Koala *(Phascolarctos cinereus)*
Koalas seemed to be second only to Common Ringtails in numbers. The Koala was recorded in many species of trees, including most local Eucalypts and *Acacia melanoxylon*. In the 1968-69 survey report, details are given of the introduction of 584 Koalas between 1944 and 1957 by the Fisheries & Wildlife Division. It was also concluded from the 1968-69 figures, that the Koala was well established in the area. Our even greater figures would certainly confirm this. In surveys 6, 7 and 9, four females with young were noted.

6. Swamp Wallaby *(Wallabia bicolor)*
This species is commonly seen throughout the ranges and especially in the gorge. A female with mobile young was seen on survey 9.

MAMMALS OF THE BRISBANE RANGES, PRELIMINARY FINDINGS - ANAKIE GORGE (continued)

7. Eastern Grey Kangaroo *(Macropus giganteus)*
Often seen in the water catchment area and infrequently elsewhere throughout the ranges. A few large males seen in the gorge where it is uncommon.

8. Yellow-bellied Sheathtail-bat *(Taphozous flaviventris)*
This rare bat may have been seen on survey 6. The record requires further investigation.

9. House Mouse *(Mus musculus)*
Common in nearby farmland; occasional dead specimens in gorge.

10. Bush Rat *(Rattus fuscipes)*
One specimen seen near creek on survey 3, abundance unknown.

11. European Rabbit *(Oryctolagus cuniculus)*
A few seen on surveys 6, 7 and 9. Uncommon in the gorge, common on nearby farmland.

12. Fox *(Vulpes vulpes)*
Not often sighted in the ranges, not necessarily uncommon because of secretive habits. One seen survey 7.

13. Cat *(Felis catus)*
Three specimens in Lower Stoney Creek Picnic Area on survey 2. Possibly eradicated in that area by Park Ranger.

Discussion

The 1968-69 survey, to which this paper is a note, concluded that both the number of native mammal species recorded and the total number of specimens recorded, were low compared to other areas. That survey recorded 9 mammal species (7 native, 2 introduced) and a total of 63 specimens - trapping included. Our survey recorded 12 mammal species (8 native, 4 introduced) and a total of 202 specimens, without trapping.

MAMMALS OF THE BRISBANE RANGES, PRELIMINARY FINDINGS - ANAKIE GORGE (continued)

It was theorized that the lack of variety in shrub layers, general lack of ground cover, and uncontrolled, illegal shooting, would have had an adverse effect on mammal populations. It was also stated that the abundance of Koalas and Eastern Grey Kangaroos in the water catchment sanctuary could reflect the ability of the whole area to support larger mammal populations under similar protection.

In 1973 the Brisbane Ranges National Park was established, thereby providing the necessary protection. Although our figures relate to different areas, they would suggest that mammal populations have increased under protection.

An interesting observation of the 1968-69 survey was the apparent absence of the Bush Rat *(Rattus fuscipes)*, regarded by most mammalogists as the most abundant and widespread small native mammal species. On survey 3 our group recorded one Bush Rat near the creek at the Lower Stoney Creek Dam end of the gorge, an area which would appear to be quite suited to the species. The reason for the absence of the Bush Rat in the 1968-69 period was a mystery, not attributable to over-predation as the only predators recorded were one Southern Boobook *(Ninox novaeseelandiae)* and one Tawny Frogmouth *(Podargus strigoides)*. In this regard, the wealth of predators we observed may be attributable to an increase in numbers of prey species. We observed: 5 Powerful Owls *(N. strenua)*, 3 Barking Owls *(N. connivens)*, 11 Southern Boobooks, 2 Tawny Frogmouths, 1 Fox and 3 Cats. Gordon McCarthy *(pers. comm.)* believes that Brush-tailed Phascogales *(Phascogale tapoatofa)* inhabit the nearby Durdidwarrah locality.

In conclusion the most plentiful mammal species in the Anakie Gorge appear to be Common Ringtail Possum and Koala. The Swamp Wallaby and Common Brushtail Possum are relatively plentiful, whereas all other species are apparently present in small numbers.

MAMMALS OF THE BRISBANE RANGES, PRELIMINARY FINDINGS - ANAKIE GORGE (continued)

Acknowledgements

The following members were involved in the field work resulting in this paper: Grant Baverstock, Paul Moore and Lawrie Conole. Occasional observers were Ira Savage and John Bowden-Perry.

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Lawrie Conole, 85 Clarence Street, West Geelong, 3218.

MAMMALS OF THE BRISBANE RANGES, PRELIMINARY FINDINGS - ANAKIE GORGE (continued)

TABLE 1.

Survey	Date	Spotlight Hours	Total No. of Specimens Recorded	Total No. of Species Recorded
1	11.8.79	1	5	2
2	9.2.80	2	49	7
3	23.2.80	2	33	6
4	26.4.80	2	25	5
5	31.5.80	3	12	3
6 *	19.9.80	2	19	4
7	20.9.80	2	21	7
8	1.10.80	0.08	2	2
9	25.10.80	2	36	6
Total		16.08	203	11

* Note: This table does not include the possible sighting of the Yellow-bellied Sheathtail-bat *(Taphozous flaviventris)*.

MAMMALS OF THE BRISBANE RANGES, PRELIMINARY FINDINGS - ANAKIE GORGE (continued)

TABLE 2.

Systematic list of mammals recorded from the Anakie Gorge, Brisbane Ranges National Park.

Order MONOTREMATA	
Family Tachyglossidae	
(1) Short-beaked Echidna	*Tachyglossus aculeatus*
Order MARSUPIALA	
Family Phalangeridae	
(2) Common Brushtail Possum	*Trichosurus vulpecula*
(3) Common Ringtail Possum	*Pseudocheirus peregrinus*
(4) Sugar Glider	*Petaurus breviceps*
Family Phascolarctidae	
(5) Koala	*Phascolarctos cinereus*
Family Macropodidae	
(6) Swamp Wallaby	*Wallabia bicolor*
(7) Eastern Grey Kangaroo	*Macropus giganteus*
Order RODENTIA	
Family Muridae	
(8) House Mouse	*Mus musculus*
(9) Bush Rat	*Rattus fuscipes*
Order LAGOMORPHA	
Family Leporidae	
(10) European Rabbit	*Oryctolagus cuniculus*
Order CARNIVORA	
Family Canidae	
(11) Fox	*Vulpes vulpes*
Family Feeiae	
(12) Cat	*Felis catus*

MAMMALS OF THE BRISBANE RANGES, PRELIMINARY FINDINGS - ANAKIE GORGE (continued)

TABLE 3. 1979-1980 SURVEY

Apparent abundance of species (a) numbers seen per spotlight hour
(b) animals seen in daylight
(c) total number of animals seen

Species	Survey									(c) Total No. of Animals
	1	2	3	4	5	6	7	8	9	
(a) spotlighting										
Pseudocheirus peregrinus	5	13.5	8	3.5	2.3	0.5	1.5	-	5	76
Trichosurus vulpecula	2	3	2	3	-	2.5	1.5	-	1.5	29
Petaurus breviceps	-	0.5	-	-	-	-	-	-	-	1
Phascolarctos cinereus	-	4	4.5	5	0.3	4	4	12.5	7	59
Wallabia bicolor	-	2	2.5	0.5	-	0.5	2	12.5	2.5	21
Macropus giganteus	-	0.5	1	0.5	1.3	-	-	-	1	10
Taphozous flaviventris *	-	-	-	-	-	-	0.5	-	-	1
Mus musculus	0.5	-	-	-	-	-	-	-	-	1
Rattus fuscipes	-	-	0.5	-	-	-	-	-	-	1
Oryctolagus cuniculus	-	-	-	-	-	2.5	0.5	-	1	8
Vulpes vulpes	-	-	-	-	-	-	0.5	-	-	1
Felis catus	-	1.5	-	-	-	-	-	-	-	3
(b) daylight sightings										
Tachyglossus aculeatus	-	1	-	-	-	-	-	-	-	1
Phascolarctos cinereus	-	2	2	-	-	-	-	-	-	4

* Possible sighting, not confirmed.

EFFECT OF RAINFALL ON WADERS AT LAKE CONNEWARRE

Margaret Cameron

Although waders are forced to leave normal feeding areas during dry periods, even temporary replenishment of pools brings them back very soon.

During the dry summer of 1979-80, that part of Lake Connewarre near the Barwon Heads road dried up completely. No waders were present after early February except for a few Red-capped Plover *(Charadrius ruficapillus)* and Masked Lapwings *(Vanellus miles)*.

The drought broke late in April, and rainfall was recorded at Barwon Heads as follows:

. . . . to 18 April	Nil
72 hours to 21 April	21 mm
24 hours to 22 April	2 mm
24 hours to 23 April	30 mm
24 hours to 24 April	6 mm
96 hours to 28 April	0.4 mm

On the morning of 21 April, water had begun to collect in the dried-up pools of the marsh, and by 22 April flocks of waders feeding in the pools could be seen from the Barwon Heads Road. The birds were counted on the morning of 25 April, when there were 7 Curlew Sandpipers (*Calidris ferruginea*), 4 Masked Lapwings, at least 177 Red-capped Plover, and at least 310 Red-necked Stints (*Calidris ruficollis*). Many of the latter were in partial breeding plumage. Two were "buttercup birds": they had been dyed bright yellow during March, as part of a project by the Victorian Wader Study Group to trace the movements of waders banded at Werribee. These two are the first birds reported to have moved from Werribee to Lake Connewarre, although one bird dyed at Werribee during September 1979 was later observed at Queenscliff, and several birds similarly dyed in March 1980 were subsequently observed at Lake Murdeduke.

After two weeks the pools had dried up, and only the Lapwings and a few Red-capped Plover remained.

M. A. Cameron, 4 Connor St., East Geelong, 3219

MAMMALS OF THE BRISBANE RANGES, PRELIMINARY FINDINGS - ANAKIE GORGE (continued)

TABLE 4. 1968-1969 SURVEY

Survey	Date	Spotlight hours	Total No. of Specimens Recorded	Total No. of Species Recorded
1	Aug. 1968	9.0	29	4
2	Feb. 1969	20.5	23	6
3	Sep. 1969	12.5	11	4
Total		42.0	63	8

TABLE 5. 1968-1969 SURVEY

Species	Survey			(c) Total No. of Animals
	1	2	3	
(a) spotlighting				
pseudocheirus peregrinus	-	0.05	-	1
Petaurus breviceps	-	0.05	-	1
Phascolarctos cinereus	0.11	0.29	0.56	14
Wallabia bicolor	-	0.15	-	3
Oryctolagus cuniculus	0.33	0.05	0.08	5
(b) daylight sightings				
Phascolarctos cinereus	5	2	-	7
Wallabia bicolor	-	1	-	1
Macropus giganteus	17	-	-	17
Oryctolagus cuniculus	2	-	-	2

THE BIRDS OF HARDING PARK, GEELONG

Ray Baverstock

About four years ago I was surprised to see a Willie Wagtail on the footpath in Brougham Street near Harding Park, and I have since seen one of these birds in the Park on several occasions.

I had previously thought that only birds like Sparrows, Pigeons and Silver Gulls were to be found in our city areas. Later I saw several White-plumed Honeyeaters feeding in the Eucalypts along the western boundary adjoining the Brewery, and I decided to keep a record of the birds seen in this small park on the north-eastern fringe of the city. The Park is bounded by Brougham, Bellerine and Corio Streets and is mainly a car parking area, but it does have areas of lawn and a number of native trees.

During the flowering season the Eucalypts provide food for Red Wattlebirds as well as White-plumed Honeyeaters, and, in 1980, for Yellow Faced Honeyeaters and Rainbow Lorikeets, too.

My periods of observation have been confined to the short time involved in walking from my car through the Park on my way to and from work, so the list is not large and it is quite possible that other birds frequent or fly over the Park, particularly as it is quite close to Eastern Beach.

The birds observed have been:

Silver Gull	*Larus novaehollandiae*
Domestic Pigeon	*Columba livia*
Spotted Turtle-Dove	*Streptopelia chinensis*
Rainbow Lorikeet	*Trichoglossus haematodus*
Blackbird	*Turdus merula*
Willie Wagtail	*Rhipidura leucophrys*
Red Wattlebird	*Anthochaera carunculata*
Yellow-faced Honeyeater	*Lichenostomus chrysops*

THE BIRDS OF HARDING PARK, GEELONG (continued)

White-plumed Honeyeater	*Lichenostomus penicillatus*
Silvereye	*Zosterops lateralis*
European Goldfinch	*Carduelis carduelis*
House Sparrow	*Passer domesticus*
Common Starling	*Sturnus vulgaris*
Australian Magpie-lark	*Grallina cyanoleuca*
Australian Magpie	*Gymnorhina tibicen*

Birds flying overhead:

Sacred Ibis	*Threskiornis aethiopica*
Black Swan	*Cygnus atratus*
Little Raven	*Corvus mellori*

R. Baverstock, 13 Helena Street, Highton, 3216.

"PUDDLING" BEHAVIOUR OF SILVER GULLS

Jess and Arthur Collins

Puddling in shallow water to drive prey animals to the surface is a well-known form of behaviour in the heron family, but possibly not so often observed in gulls. Our first sighting of this behaviour was in a flooded paddock near Beeac, when a Silver Gull *(Larus novaehollandiae)* was seen to execute a rapid double-shuffle in inch-deep water, later pecking at the surface and apparently obtaining food. This seemed reasonable in flooded grass-land, where worms and insects would be brought up by water invading their burrows.

A less likely location for food-gathering in this way would seem to be a surf beach, but this was where it was next seen. On the western shore of Wilson's Promontory, at the end of the Cotter's Lake track, we saw several Silver Gulls puddling in the sand in the wake of receding waves. As each wave came in they stopped until it had retreated, then started again to puddle in the shallow pools left in ripple-marks. One of us tried to do likewise by disturbing the sand in such pools, but if anything came to the surface it was too small to be visible. However, the birds continuously pecked at the surface after puddling and were obviously getting some return for their labour, probably minute crustaceans living in the interspaces between sand-grains.

Jess and Arthur Collins, 9 Warwick Street, Newtown, 3220.

Editor's note: *The handbook of Australian seabirds* (Serventy, D.L., Serventy, Vincent, and Warham, John, Sydney, Reed, 1971 p. 195-6) describes the food of the Silver Gull as "predominantly fish in the breeding season in coastal areas." Other food items include pelagic amphipods *(Hyperia gaudichaudi)*, brine shrimps *(Artemia salina*, etc.) in salt lakes, flying ants, grasshoppers, and other insects, vegetable food, domestic, factory and sewerage wastes. "The birds feed with ravens and magpies in newly ploughed paddocks. Kelp

"PUDDLING" BEHAVIOUR OF SILVER GULLS (continued)

fly larvae are an important item of diet when seaweed banks are exposed by wind or tide. Birds "puddling" in the sand pick up small cockles as they emerge. The puddling may be a feeling or disturbing action which exposes mud-living invertebrates to the birds. Frogs are among the many other creatures eaten."

BOGONG HIGH PLAINS

December 1980 - January 1981

Harry Fallaw

On 28th December a party of eight gathered at Falls Creek (altitude 1584 metres) and established themselves in a pleasant flat in that village. The group included members of both sexes, and of three generations, with ages varying between fifteen and seventy-five; but all had a common interest in the high plains and the mountains.

For the ensuing fortnight the party's active hours were spent almost entirely above the 1600 metre contour line. Daily excursions, up to 27 kilometres, were made over the magnificent landscape, taking in such summits as Mt. Bogong (1983 m.), Mt. Spion Kopje (1836 m.), Mt. Nelse (1882 m.), this still bearing two pockets of snow on its southern slope, Mt. Jim (1803 m.), Mt. Cope (1837 m.), where a party of research botanists was met, Mt. Niggerhead (1843 m.), and Mt. Fainter (1876 m.). A three-day hike was undertaken to Mt. Hotham (1860 m.) via the Razorback, and return via Diamantina Spur and Weston's Hut.

The weather generally was fine and hot throughout, though there were occasions when cloud obscured the landscape or sudden violent thunder storms, accompanied once by torrential rain and hail, induced a marked feeling of awe.

A difference was noted between the igneous and metamorphic rocks of the Bogong High Plains and the mainly sedimentary material of the mountains to the west - a difference which was reflected in the plant life.

Basalt and a clean silver-grey granite appeared to constitute the bulk of the high plains. The fire tracks there sparkled with mica schists and quartz; and water worn gneisses, looking very dull, displayed brilliant interiors when fractured. The columnar basalt of the Basalt Temple was a striking feature of the western slopes of the plains.

BOGONG HIGH PLAINS (continued)

No animals were observed, other than the inevitable cattle, which seemed to be enjoying life on their high summer pastures.

Insect life was represented by constant myriads of flies, occasional waves of march flies or swarms of ants, ubiquitous spider funnels, and a picturesque beetle or two which the party was unable to identify.

Few birds were seen - Ground Larks, Quail, Ravens and Brown Falcons in the main. Below the timber line there were odd sightings of Treecreepers, Grey Fantails, Blue Wrens, Scarlet Robins, White-faced Heron and White Egret. A pair of Rufous Fantails with a nest overhanging a stream at the foot of Mt. Bogong's Staircase Spur was a delight to watch. In the same area Whip Birds and a Kookaburra were heard.

The ground cover, wherever it was not snow grass, whether among the snow gums or above the tree line, was a jostling layer of flowering plants. Of these the following were identified:

Aciphylla glacialis	Snow Aciphyll
Ajuga australis	Austral Bugle
Boronia algida	Alpine Boronia
Bossiaea foliosa	Leafy Bossiaea
Celmisia longifolia	Silver, or Snow, Daisy
Colobanthus affinis	Alpine Colobanth
Comesperma retusum	Mountain Milkwort
Craspedia glauca	Common Billy-buttons
Dianella tasmanica	Tasman Flax-lily
Drimys xerophila	Alpine Pepper
Epacris petrophila	Snow Heath
Euphrasia collina	Purple Eyebright
Ewartia nubigena	Silver Ewartia
Gentianella diemensis	Mountain Gentian
Geranium solanderi	Cutleaf Cranesbill
Goodenia hederacea	Ivy Goodenia
Grevillea victoriae	Royal Grevillea

BOGONG HIGH PLAINS (continued)

Helichrysum adenophorum, var. *waddellae*	Waddell Everlasting
Helipterum albicans	Hoary Sunray
Herpolirion novae-zelandiae	Sky Lily
Hovea longifolia, var. *montana*	Rusty-pod
Kunzea muelleri	Yellow Kunzea
Montia australasica	White Purslane
Olearia frostii	Bogong Daisy-bush
Olearia lirata	Snowy Daisy-bush
Orites lancifolia	Alpine Orites
Oxylobium alpestre	Mountain Shaggy-pea
Pentachondra pumila	Carpet Heath
Pimelea axiflora	Tough Riceflower (Bootlace Bush)
Prostanthera cuneata	Alpine Mint-bush
Prostanthera lasianthos	Christmas Bush
Ranunculus lappaceus	Austral Buttercup
Richea continentis	Candle Heath
Rubus parvifolius	Small-leaf Bramble
Scaevola hookeri	Creeping Fan-flower
Scleranthus biflorus	Twin-flower Knawel
Senecio lautus	Variable Groundsel
Stackhousia pulvinaris	Alpine Stackhousia
Stellaria pungens	Prickly Starwort
Sticherus lobatus	Spreading Fan Fern
Stylidium graminifolium	Grass Trigger-plant
Stypandra glauca	Nodding Blue-lily
Thelymitra carnea	Pink Sun-orchid
Thysanotus tuberosus	Common Fringe-lily
Trachymene humilis	Alpine Trachymene
Veronica nivea	Mountain Speedwell
Viola betonicifolia	Showy Violet
Wahlenbergia gloriosa	Royal Bluebell

On 11th January the party drove home by way of Omeo. They were at first charmed by a mystic lake of cloud below them, but then frustrated, as they descended, by having to drive for many miles through the cloud and so miss the enjoyment of what must surely be a scenically beautiful drive.

BOGONG HIGH PLAINS (continued)

In the neighbourhood of Swift's Creek particularly, bare earth and dying trees testified to the severity of the drought in that area.

Harry Fallaw, 32 Eastern Beach, Geelong, 3220.

MT. HOTHAM PLANT LIST

Geelong Field Naturalists' Club Excursion, 16-19th January, 1981

Gwen Yarnold

Aciphylla glacialis	Snow Aciphyll
Agrostis parviflora	Bent
Deschampsia caespitosa	Tufted Hair-grass
Ajuga australis	Austral
Asperula scoparia	Prickly Woodruff
Baeckea utilis	Mountain Baeckea
Boronia algida	Alpine Boronia
Bossiaea foliosa	Leafy Bossiaea
Brachycome petrophila	Rock Daisy
Brachycome rigidula	Hairy Cut-leaf Daisy
Bursaria spinosa	Sweet Bursaria
Carex appressa	Tall Sedge
Callistemon sieberi	Alpine Bottlebrush
Celmisia longifolia	Silver Snow Daisy
Colobanthus affinis	Alpine Colobanth
Cotula alpina	Alpine Cotula
Cotula filicula	Mountain Cotula
Craspedia glauca	Common Billy-buttons
Danthonia nivicola	Snow Wallaby-grass
Danthonia nudiflora	Alpine Wallaby-grass
Drimys xerophila	Alpine Pepper

BOGONG HIGH PLAINS (continued)

Epilobium tasmanicum	Snow Willow-herb
Erigeron pappacroma	Violet Fleabane
Eucalyptus pauciflora	Snow Gum
Euphrasia glacialis	Glacial Eyebright
Ewartia nubigena	Silver Ewartia
Gentianella diemensis	Mountain Gentian
Goodenia hederacea, var. *alpestris*	Ivy Goodenia
Gratiola peruviana	Austral Brooklime
Helichrysum acuminatum	Orange Everlasting
" *apiculatum*	Common Everlasting
" *alpinum*	Alpine Everlasting
" *hookeri*	Scaly Everlasting
Helipterum anthemoides	Sunray
Hovea longifolia, var. *montana*	Rusty-pod
Kunzea muelleri	Yellow Kunzea
Lagenophora stipitata	Blue Bottle-daisy
Leptorhynchos squamatus	Scaly Buttons
Leucopogon montanus	Snow Beard-heath
" *suaveolens*	Mountain Beard-heath
Luzula campestris, var. *australasica*	Alpine Field Woodrush
Lycopodium fastigiatum	Mountain Clubmoss
Microseris scapigera	Yam Daisy
Olearia frostii	Bogong (Hoary) Daisy-bush
" *phlogopappa*	Dusty Daisy-bush
Oreomyrrhis eriopoda	Australian Carraway
Orites lancifolia	Alpine Orites
Oxylobium alpestre	Mountain Shaggy-pea
Pentachondra pumila	Carpet Heath
Persoonia juniperina	Prickly Geebung
Pimelia ligustrina	Pimelea
Poa sp.	Snow Grass
Podocarpus lawrencei	Mountain Plum Pine
Podolepis robusta	Alpine Podolepis
Polystichum proliferum	Mother Shield-fern
Prasophyllum alpinum	Alpine Leek Orchid
" *suttonii*	Mauve Leek Orchid
Prostanthera cuneata	Alpine Mint-bush

MT. HOTHAM PLANT LIST (continued)

Ranunculus collinus	Strawberry Buttercup
" *gunnianus*	Gunn's Alpine Buttercup
Richea continentis	Candle Heath
Rubus parvifolius	Small-leaf Bramble
Scleranthus biflorus	Twin-flower Knawel
Senecio lautus, subsp. *Alpinus*	Variable Groundsel
" *pectinatus*	Alpine Groundsel
Stellaria flaccida	Forest Starwort
" *pungens*	Prickly Starwort
Stylidium graminifolium	Grass Triggerplant
Trachymene humilis	Alpine Trachymene
Veronica derwentiana	Derwent Speedwell
Viola betonicifolia	Showy Violet
" *caleyana*	Swamp Violet
Wahlenbergia gloriosa	Royal Bluebell

Total = 74 species

Gwen Yarnold, 6 Skene Street, Newtown, 3220.

NATIVE AUSTRALIAN PLANTS AS PESTS OVERSEAS

A.K. Cavanagh

INTRODUCTION

In many areas of Southern Australia, the alarming spread of South African boneseed *(Chrysanthemoides moniliferum)* is an all-too-familiar problem. In the Geelong area, its growth pattern has been partly documented for the You-Yangs Forest Park. A few bushes were first noticed in the early 1950's and over the past 30 years the plant has engulfed several thousand hectares, usually to the exclusion of nearly all the natural vegetation. Other areas badly affected by boneseed include the Mornington Peninsula, the Bellarine Peninsula and some areas of South Australia. In all these cases, the story appears to be the same - just a few plants noticed initially, followed in a relatively short time by an 'explosion' and near complete replacement of the local flora.

Boneseed, of course, is not the only imported pest plant. (It was introduced from South Africa to the Melbourne Botanic Gardens around 1858 and was extensively planted in other states in later years to stabilise sand dunes.) Water hyacinth from Central and South America blocks many kilometres of waterways in Queensland and New South Wales; lantana (still widely grown as a pot plant in Victoria) forms dense, prickly thickets in many areas of Queensland where it is a declared noxious weed and widely detested as a cattle poison; many grasses such as couch, kikuyu, 'blady grass', etc., have their origins in foreign countries. Under these circumstances, it is often forgotten that the traffic is not all one way - a number of Australian plants have achieved the status of noxious weeds overseas and in several areas have given rise to even worse infestation than is evident with boneseed in Australia. In this article, I will discuss the nature of this infestation in South Africa and the U.S.A. and consider some of the reasons why plant invaders are so successful away from their home territory.

NATIVE AUSTRALIAN PLANTS AS PESTS OVERSEAS (continued)

SOUTH AFRICA (1-4)

A fascinating book recently published in South Africa (Plant Invaders: Beautiful but Dangerous, 1978) gives details of 26 species which are currently causing considerable concern because of their ability to spread apparently unchecked through much of the Cape Province. Eleven are from Australia, three of them (all *Hakea* sp.) being declared noxious weeds. An additional nine Australian species are listed as potential plant invaders and a number of these are already spreading in some areas. The plants concerned (Table 1) are in many cases highly regarded in Australia and the mystery obviously is - why do they do so well in South Africa while causing few problems in Australia? The reasons are complex and will be discussed a little later. However, it is noticeable that the South Africans have made a much more concerted effort to study the nature of plant invaders and devise means of controlling them than we have with our problem plants. We might do well to follow their lead.

Recent studies have shown that many Australian plants were introduced into Botanic Gardens in Cape Town and Grahamstown during the period 1839-1860. For example, one gardens curator imported more than 1600 "exotic" species and seeds of many others. By 1858, the Cape Town Botanical Gardens was growing (and distributing seeds and plants of) many of the plants which subsequently became pests. In the case of Australian Acacias, Hakeas and Leptospermum, they performed a very important role in vegetating large areas of drift sand and providing shelter (Acacias) and protection from animals (Hakeas) for many extensive plantations of another exotic, cluster pine *(Pinus pinaster)*. The introduced plants produced large quantities of seed and reports of 1884 speak of 27 bushels of seed of *Acacia cyclops* alone being collected and sold. The Black Wattle *(Acacia mearnsii)* was introduced into Natal in about 1864, initially for shelter and firewood, but was later exploited for its bark which is used in the making of tannin. Today, descendents of these original plants form the basis of a $23m bark, timber and paper pulp industry, with 160,000

NATIVE AUSTRALIAN PLANTS AS PESTS OVERSEAS (continued)

hectares under plantations. Australia currently imports a large part of its vegetable tannin requirements from South Africa while local production is almost negligible - surely an example of Australia "missing the boat".

When plantations and farmland were abandoned, the introduced plants spread rapidly, showing a marked ability to colonise devastated land and from there invading the indigenous vegetation. The other major source of infestation was the extensive sand stabilisation programme initiated in many areas of the Cape Province. As recently as 1975 considerable quantities of seed of several Australian Acacias were still being sold for this purpose. The practice has now ceased and the South African authorities are making strenuous efforts to persuade people to plant local species. Among those highly recommended is boneseed! It is indeed ironic that during the last century, while we in Australia were using boneseed for sand and dune stabilisation, the South Africans were avidly growing Australian Acacias to overcome their own similar problems. In both cases, too little attention was given to problems of control and as a result, both countries are now suffering the consequences.

UNITED STATES OF AMERICA (5-7)

The area of America most seriously affected by introduced plants is Florida, especially the fragile ecosystem of the Everglades. As in South Africa, the majority of these introductions are from Australia and South America, the Australian species being imported to provide windbreaks and hedge rows for market gardens, to assist in draining low lying land and to vegetate the swamps with a wood producing tree. Still another use was to provide erosion control along riverways and canals. It is likely that seed is spread along such waterways so that today, tens of thousand of hectares are covered with virtually impenetrable thickets of Melaleuca and Casuarina.

NATIVE AUSTRALIAN PLANTS AS PESTS OVERSEAS (continued)

The species which causes most concern is *Melaleuca quinquenervia*, native of New South Wales and Queensland, which is well known for its ability to grow in poorly drained and even saline soils. Apart from its alarming ability to spread and replace native vegetation, this plant, known as Punk Tree in Florida, releases volatile substances from leaves and flowers which cause widespread respiratory and skin reactions among the inhabitants. Again, it is only in recent years that the problem has been recognised. Apparently *Melaleuca quinquinervia* is still grown on a large scale in nurseries and is sold as an ornamental tree - certainly the pale yellow bottlebrush flowers are not unattractive and the tree is quick growing and easy to establish in unfavourable soil conditions. As yet, there is no known method of biological control and chemical sprays or a combination of chemical and mechanical control are only partially effective. The Floridans, like the South Africans, probably known more about these plant species than we do and they have found that if the tree is cut down, it will shoot from the stump and from the roots, pieces of the stem will shoot, and often a new thicket is the result. Like Callistemons, Melaleucas hold their fine seed in woody capsules and these are released after a fire or when the tree dies. It has been estimated that a mature Melaleuca 10m tall could produce about half to one million seeds annually and perhaps as many as 4 million might be shed if such a tree is destroyed. Small wonder then that considerable effort is being expended to control this by now highly undesirable plant invader before it is too late.

Two other Australian plants originally regarded as useful are now placed in the invader class. These are Casuarinas, *equisetifolia* and *glauca*, often called Australian pine. They were used for windbreaks and erosion control but have now spread rapidly. Their presence is causing major concern in beach areas where they form dense barricades and exclude the native vegetation, including mangroves! Of more critical ecological importance is their spreading and dense root system which often prevents sea turtles and the Florida

NATIVE AUSTRALIAN PLANTS AS PESTS OVERSEAS (continued)

crocodile from laying their eggs; in addition, the change in the nature of the coastal vegetation often reduces the availability of suitable habitats for nesting birds. Regrettably, these species are just as difficult to remove as is *Melaleuca quinquinervia* even though considerable money is being spent on efforts to find suitable control measures. In the swamp lands of the Everglades, obviously one of the major problems is gaining access to the areas of worst infestation. Additionally, there appears to be little hope at present of finding a viable method of biological control.

CALIFORNIA

Despite the proliferation of Australian plants in California[5,8], there is relatively little information available concerning species which are or could be potential pest plants. Rodger Elliot[5] lists several Acacias, including *dealbata, decurrens, melanoxylon* and *verticillata* and it is notable that these are some of the same plants that are causing so many problems in South Africa. Similar claims are made about a number of Eucalypts but while Eucalypts form a surprisingly large part of the flora, they are very highly regarded and currently some 80,000 hectares have been planted in California alone[8]. Butterfield[9,10] has researched the introduction of both Acacias and Eucalpyts into California and includes impressive lists of species available in the period 1860-1900. It appears several pioneer nurserymen were responsible, notably a Mr. William Walker and Mr. Stephen Nolan, and Baron von Mueller made substantial contributions through the supply of seeds. Like areas of South Africa, parts of central and Southern California in the 1850's were virtually bare of trees. Eucalypts proved adaptable and very fast growing (some species reaching 15m in three years from seed) while the lack of native pests ensured the trees grew shapely and without blemish. However, despite these characteristics, the plants do not appear to have given rise to the problems which are now faced in South Africa and Florida.

NATIVE AUSTRALIAN PLANTS AS PESTS OVERSEAS (continued)

WHY ARE "FOREIGN" PLANTS SO SUCCESSFUL?

Providing the climate and soil are favourable, any plant species can become established. What sets many of the plant invaders apart is their ability to colonise large areas rapidly, often to the detriment of the local flora. This is of considerable concern in South Africa which has a substantial wild flower trade; additionally much of the flora is of major scientific interest as it is not found elsewhere in the world. It was recently estimated that less than 40% of the original South-Western Cape flora remains, usually in small patches and isolated corridors and up to a quarter of this area is already infested by Australian Acacias and Hakeas. Once established, the Acacias (and Hakeas) form dense, impenetrable thickets and effectively smother other vegetation. Gradually the endemic plants disappear and the area becomes a mono species wasteland.

There are several general reasons why "foreign" plants compete so successfully against local flora. Primarily, they become naturalised in an area of similar climate to their home countries, but free of many or most of the pests and diseases which restrict or control them at home. They are thus better able than the indigenous flora to exploit the environment, growing and reproducing more vigorously and taking advantage of man made disturbance and natural disasters such as bushfires. As an example, surveys have shown that more than 90% of the seed of indigenous African Acacias is destroyed by insects while few, if any, of the Australian species are affected. Conversely in Australia as many as 25 species of insects are known to infest Acacias while other diseases such as gall rusts and borers can cause severe weakening or death even of mature trees.

The trees themselves have been selected for their rapid growth and ability to colonise unfavourable soil types so it is natural they will do well once established. They are often drought resistant or tolerant of wet conditions and most are prolific seed setters. In the case of Melaleucas and Hakeas, the seeds are protected from fire by a woody case,

NATIVE AUSTRALIAN PLANTS AS PESTS OVERSEAS (continued)

which opens several days after the fire has passed giving a potential germination of millions of replacement seedlings. Acacia seeds are also resistant to heat but their germination is stimulated by fire which damages a small area of the coat known as the strophiole thus allowing the seeds to take up water. Acacias pose a particular problem in South Africa as studies have revealed densities of seeds under old Acacia trees exceeding 20,000 to the square metre. When it is considered that such seed can have a life of 50 years or longer buried in soil, the potential for spread and the difficulty of control are all too obvious. Australian work with boneseed has revealed that it too has many of these disheartening characteristics and the only real hope of control of introduced pest plants lies in finding some types of natural enemies which are selective, ie. biological control, such as was so effective against Prickly Pear in Queensland. Regrettably, little progress has been made in either Australia or South Africa into this matter and research is seriously hampered by lack of funds. Other eradication techniques using chemicals or mechanical means such as hand pulling of seedlings, slashing or ring-barking mature trees and cutting the stem off at or near ground level have proved inordinately expensive.

Introduced plants are causing problems world wide and in almost every case, recognition of the need for action has come too late. There is an urgent need for Australians to show more concern in this matter and for Government and other areas to provide money and carry out research into control measures, otherwise it is only a matter of time before we could be facing problems similar to those brought about by our own plants in South Africa and Florida.

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NATIVE AUSTRALIAN PLANTS AS PESTS OVERSEAS (continued)

TABLE 1

LIST OF PEST PLANTS AND POTENTIAL INVADERS - SOUTH AFRICA

Species	Common Names	
Pest Plants:	SOUTH AFRICA	AUSTRALIA
Acacia cyclops	Rooikrans	Western Coastal Wattle
Acacia longifolia	Long Leaf Wattle	Sydney Golden Wattle
Acacia mearnsii	Black Wattle	(late) Black Wattle
Acacia melanoxylon	Blackwood	Blackwood
Acacia pycnantha	Golden Wattle	Golden Wattle
Acacia saligna	Port Jackson	Golden Wreath Wattle
Albizia lopantha	Stinkbean	Cape Leuwin Wattle
Hakea gibbosa	Rock Hakea	Peeling Hakea
Hakea sericea	Silky Hakea	Silky Hakea
Hakea suaveolens	Sweet Hakea	Sweet Scented Hakea
Leptospermum laevigatum	Australian Myrtle	Coast Ti Tree
Potential Invaders:		
Acacia baileyana	Cootamundra Wattle	Cootamundra Wattle
Acacia dealbata	Silver Wattle	Silver Wattle
Acacia decurrens	Green Wattle	Sydney Green Wattle
Acacia elata (terminalis)	Cedar Wattle	New Year (sunshine) Wattle
Euc. gomphocephala	Sand Gum or Tuart	Tuart
Euc. lehmanniana	Spider Gum	Bushy Yate
Myoporum insulare	Manitoka	Boobialla
Omalanthus populifolius	Queensland Poplar	Poplar Leaved Omalanthus
Pittosporum undulatum	Sweet Pittosporum	Sweet Pittosporum

AN HOUR COUNT - NO. 35

CHINCHILLA, QUEENSLAND

Roy Wheeler

Chinchilla, over 300km west of Brisbane, was one of my ports of call in my trip around Australia. I was the guest of Mr. Cec. Cameron M.B.E. and Mrs. Cameron at "Rockwood" station where they have been since July 1948. This area was first settled in 1920 by selections owned by Mr. Postick and Mr. Corser. It became heavily infested by prickly pear up to ten feet in height. The pear covered an area of 28 million acres, and was spreading at the rate of 800,000 acres a year. Cattle which lived in the pear forest did not need water because the pear supplied enough for their needs, but they suffered from thorns in the tongue and mouth. Wood cutters in the area had to use steel tyres for their waggons. Prickly pear was introduced as an ornamental plant. The introduction of the insect Cactoblastus was made over the 1928-1930 period, and in a few short years completely eradicated the pear. Cactoblastus is still controlling any fresh outbreaks of the prickly pear menace.

During World War 2 development was delayed and then Mr. Mackie took over "Rockwood" until 1945 when he sold to Mr. Speedie. Both these owners put down bores and got good water at a reasonable depth. One bore near the woolshed found good stock water at 305 feet, and this was where I did some hour counts during my stay. Chinchilla is in brigalow country. Brigalow is the aboriginal name for *Acacia harpophylla*, a common tree occuring in central western New South Wales, into Queensland over the Central and Western Downs, and north as far as Clermont. It grows in the famous volcanic black soil grain belt of Queensland, where prime hard wheat has been grown for the last 50 years without the slightest need for fertilisers. This has been attributed to the fact that brigalow, a legume of immense value to the soil, has the power to store nitrogen in the ground.

AN HOUR COUNT - NO. 35 (continued)

Brigalow has no taproot and suckers very easily. In some areas it grows very thickly, and can make an almost impenetrable belt of trees. This was noted in his diary by John Gilbert, when travelling with Leichardt's party in 1845, on the fatal journey on which he was speared to death by aborigines on the Mitchell River.

Herewith is the best result of the Hour Counts during my stay at Chinchilla.

"Rockwood", Chinchilla, Queensland. At woolshed trough about 2km from homestead. Area with Belar, Peppers, Wilga, Brigalow, Poplar Box and Cyprus Pine. May 15, 1979. One observer, Roy Wheeler.

Birds in order of sighting: Jacky Winter, 8; Restless Flycatcher, 1; Red-capped Robin, 2; White-plumed Honeyeater, 23; Pied Currawong, 2; Noisy Miner, 4; Willie Wagtail, 2; Crow, 3; Crested Pigeon, 2; Spiny-cheeked Honeyeater, 25; Yellow-rumped Thornbill, 3; Double-barred Finch, 40; Brown Honeyeater, 12; Scaly-breasted Lorikeet, 2; Peaceful Dove, 4; Zebra Finch, 12; Yellow-faced Honeyeater, 4; Mistletoe-bird, 4; Brown-headed Honeyeater, 2; Brown Weebill, 4; Rufous Whistler, 1; Orange-winged Sittella, 1; Superb Blue Wren, 2; Magpie Lark, 2; Pale-headed Rosella, 2. Total 25 species and 167 individuals.

(A further count for the hour immediately afterwards produced only 21 species, including four species not recorded in the first count, namely Diamond Firetail, Broad-tailed Thornbill, Emu, and Hooded Robin.)

W.R. Wheeler, 59A Upton Road, Windsor, 3181.

BUTTERFLY AND MOTH BREEDING IN YOUR OWN GARDEN

Roger Guard

We arrived in Cairns in 1977 and set out to provide suitable food plants in our garden to encourage common local species of butterflies and moths to breed. The plants we have tried so far and their corresponding butterflies or moths are:

Citrus - for *Papilio fuscus capaneus* (Capaneus butterfly), *Papilio anactus* (Dingy swallowtail), *Papilio aegeus* (Orchard butterfly) and *Papilio ambrax* (Ambrax butterfly).

Aristolochia indica - for *Ornithoptera priamus euphorion* (Cairns Birdwing), *Cressida cressida cressida* (Big Greasy) and *Pachliopta polydorus* (Red-bodied swallowtail).

Euodia - for *Papilio ulysses* (Ulysses butterfly).

Custard apple and Mitrephora - for *Graphium eurypylus* (Pale Green Triangle), *Graphium agememnon* (Green Spot Triangle). Potentially one could also hope for *Graphium macfarlanei* and *Graphium aristeus* but that is being optimistic as both are rare in Cairns.

Mistletoe - for *Delias mysis mysis* (Union Jack) and *Delias argenthona* (Northern Jezabel). *Delias nigrina* (Common Jezabel) and *Ogyris* species have not yet been seen in our garden. A bonus here is the delightful Mistletoe Bird.

Nerium (Oleander) - for *Euploea eichhorni* (Eichhorn's crow) and *Euploea core corinna* (Common crow).

Orchids - for *Hypolycaena danis* (Black and white tit).

Cassia (several N.Qld. species) and Poinciana - for *Polyura pyrrhus sempronius* (Tailed emperor).

BUTTERFLY AND MOTH BREEDING IN YOUR OWN GARDEN (continued)

Rough leafed fig - for *Philiris innotatus* (Common moonbeam).
Plumbago - for *Syntarucus phinium* (Zebra Blue).
Omalanthus - for *Coscinocera hercules* (Australian Atlas Moth).
Coconuts - for *Cephrenes* (Palmdarts).

This list of suitable plant species could be extended greatly by any enthusiast, especially one with a good knowledge of native plants: e.g. Adenia populifolia for Cruisers and Lacewings and Ant House Plants for Apollo Jewels. It is also worthwhile establishing flowering plants suitable for attracting butterflies. Our choice of these includes Pentas, Buddlea and Lantana. Most of these plants are available at nurseries. Mistletoe needs no human effort to spread in our garden. Omalanthus (Bleeding Heart Tree) is common in our bush. Aristolochia indica and Aristolochia delantha are not common in the bush and are not stocked by nurseries. However, plants are either obtained from other Birdwing breeders or from the bush. Many of these plants have the added bonus of being fruit producers (e.g. citrus), flowering trees (e.g. Euodia and Cassia) or good shade trees (e.g. Poinciana). Unfortunately, larvae and flowers do not always coexist happily as one will be reminded by any serious orchid grower in Cairns. *Hypolycaena* is remarkable in its ability to seek out and nip in the bud any unguarded orchid in the city.

With each species we try to obtain a photographic record of each stage of development including emerging sequences. We also keep a record of all pupation times and other data.

Ulysses were our first success, when in 1979 we managed to assist 33 through to adulthood. Ulysses need man's intervention to successfully breed in a domestic garden. Without it the parasitism rate is 100% at the pupal stage. Presumably parasitism is less severe in the jungle since the species appears to be surviving very well. The main pupal parasite of Ulysses in our garden is the large brown household blowfly. In 1978 we lost all of our Ulysses

BUTTERFLY AND MOTH BREEDING IN YOUR OWN GARDEN (continued)

from this cause, but in 1979 we brought most of them inside at the pre-pupal stage and kept them in a polystyrene box covered with fine netting. We attach the date of pupation tage to the branch used for pupation. Any pupa not found within the 24 hour period of prepupation is lost to the flies. There is also a smaller fly of unknown species which attacks Ulysses as well as the Papilios on citrus. This fly follows the last instar around and either attacks the pre-pupa (e.g. Ulysses) or the final instar (e.g. Papilios). Contrary to expectations, I have not seen any predation of pupae by wasps. In 1980 we have not had as much success with Ulysses as in 1979 mainly because our tree is so large (despite pruning) that finding the pre-pupae in time has not been so easy. Others have had little success with Ulysses because their trees have green tree ant nests in them which appears to be fatal for the small larvae.

Some of the feeding activities of Ulysses are very interesting to watch. The larvae are exclusively night time feeders except for the last few days before pupation when they will sometimes feed in broad daylight. This practice is dangerous as they are very palatable to birds. Normally however, during the day they stay in carefully webbed hides made on the upper surface of a leaf. The webbing makes the sides of the leaf come together to give protection. Some larvae will make two or three daytime hides during their life. Some hides are shared by two caterpillars. As dusk falls each day, it is interesting to watch several larvae at different sites on the tree go out to feed at almost the exact same minute.

When the time comes for pupation they are kind to their keepers by always pupating on their food plant but often at a site far distant on the tree from their hide. (We have seen one exception to this rule in about 60-70 pupations. This larva left the tree and pupated on a fence 6 feet away.) The pupation is sometimes on the undersurface of a major branch but is generally under the central leaf of the three terminal leaves on each twig. The pupa is

BUTTERFLY AND MOTH BREEDING IN YOUR OWN GARDEN (continued)

cleverly disguised to look like a small subsidiary leaf. The pupation time varies with the month of the year being about 17 days in Jan-Feb, 21 days in May-June and up to 24 days at the end of winter. We have not seen any over-wintering of pupa, i.e. diapause, so I presume that in Cairns continuing breeding cycles are present all year round. The adult or imago emerges in the early morning varying from first light to about 10 a.m.. Wing expansion takes about 10 minutes and then wing drying takes about 4 hours. Unfortunately you can never photograph their bright blue colour because they keep their wings tightly closed during this time. It is quite a thrill to watch the first flight of such a beautiful creature and to know that it is a product of your own tree.

1980 for us has been the year of the Birdwing because this year we have reared and released 40 adults. Birdwings, in contrast to Ulysses, are quite hardy and seem to have very few predators, at least in our garden. They feed in broad daylight and have no camouflage. Birds ignore them presumably because they know that Aristolochia is poisonous. The caterpillar rests by night generally on the back of a leaf. The pupae may be left out in the garden (which happened accidentally in two cases this year) and will come to no harm. Their numbers seem to be directly proportional to the quantity of their food plant. The only predators we noted were Assasin bugs which suck the juice out of 1st and 2nd instar larvae and a fly which laid its eggs around the head of the growing caterpillar. Strangely enough many of these caterpillars survived so presumably the fly was not well adapted to this host insect. Another troublesome unseen night predator ate 10 mature larvae and even a pre-pupa. We believe this was a rat but have no proof.

There are many fascinating aspects of the daily life of Birdwings. The adult female often lays her eggs on adjacent plants rather than the vine and although the hatching site may be close (as the crow flies) to its food plant, the caterpillar often had about 8 feet to crawl down its plant

BUTTERFLY AND MOTH BREEDING IN YOUR OWN GARDEN (continued)

and onto the vine. It would, however, never fail to make this long trip with apparent ease. Its first meal incidently would be its own eggcase. When ready to pupate, the final instar would wander away from the food plant to pupate on a suitable adjacent plant. If the vine was growing on an unsuitable surface for pupation, the caterpillar would wander an incredible distance away before it finally found a suitable site. This made locating the pupae very difficult. Having selected its pupation site it would web the under surface of the leaf and remaining on the webbed surface it would then empty its gut of excess fluid and the next day it would extend its webbing. One interesting point here is that it very carefully webs the junction of the leaf with the branch (as do other species, e.g. *Coscinocera hercules*) so that if the leaf should die the pupa will not fall to the ground. The caterpillar then makes its girdle which is quite a gymnastic process that must be watched to be appreciated. Finally the pre-pupa is finished and after about 36 hours the final skin is shed to form the pupa. At one stage in this process the pupa almost falls out of its girdle but it is saved by two perfectly placed spines near the head. This dangerous manoeuvre is necessary to completely free the final instar skin. Pupation times vary from 30 days to 51 days, with an average of about 39 days. As with Ulysses we have not observed any overwintering. The imago emerges in the morning between 6 a.m. and 11 a.m.. Wing expansion takes about 15 minutes and wing drying takes 5 hours. First flight often occurred at lunchtime. The females were often mated the same afternoon and five matings were observed in our own yard. Of these three lasted for 24 hours and the other two for only four hours.

Perhaps the most rewarding aspect of Birdwing breeding is that once you have enough vine the males take up territories in your garden and will defend them all day. Several individual males maintained their territories for up to 2 or 3 weeks during this season. When one male strays into another's territory the two males will attack each other and

BUTTERFLY AND MOTH BREEDING IN YOUR OWN GARDEN (continued)

fly away fluttering around each other. In about one minute only one will return the victor. The males maintain their territories so that as soon as a female emerges in their area they will mate her. The male will attempt to chase both humans and birds out of their territory. I have seen them succeed in driving out Magpie-lark and an Indian myna. When a human enters they will fly towards your head in an attempt to remove the intruder. It is good to reliably be able to show visitors from the South a male Birdwing in flight. The females, once mated, tend to wander.

Many questions remain unanswered but perhaps that makes it all the more interesting. Data based on collecting adult butterflies is largely complete apart from a few Lycaenids and Hesperids which are still being discovered. However, data is very scarce on subjects such as breeding habits, food, plant adaptations, length of adult life, adult movements, the ability of females to find their food plants and of males to find the females. These aspects present the amateur naturalist with a great opportunity to add to our scientific knowledge and also to enjoy an all year round, ever changing, and fascinating hobby without leaving his own back yard.

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EDITORIAL

The discovery of the New Holland Mouse at Anglesea, as reported by Kathryn Kentish in this issue, shows how much there still is to learn about our area, even though it is comparatively heavily populated and easily accessible from Melbourne and other large centres. The Otways, a little further away and much less disturbed, are threatened by clear-felling for wood chips. What animals and plants might be lost through this destructive industry, before the area is even properly and thoroughly studied? Have we — 20th century residents of Victoria — the right, for the sake of economic gain which, on the evidence of projects elsewhere in Australia, is certainly short-term and may be illusory, to destroy FOR EVER — and that's the effect of clear-felling — our beautiful forests which can provide continuing, if less spectacular, returns in other ways: for example through selective logging or tourism? More importantly, however, they provide inspiration and spiritual refreshment for city dwellers, and wilderness experience for young people who might otherwise not have the opportunity to find out what real bush is like and what challenges it can present, and they protect and preserve the natural heritage of plants and animals, birds and insects, for the sake of future generations.

Margaret Cameron

Note: Despite the letter to the editor on the subject, which is published because many people, including myself sometimes, are sympathetic to the problem it raises, I will continue to use the standard lists of names for animals as identified in the October 1980 issue.

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The New Holland Mouse a new record from Anglesea

Kathryn M. Kentish

New Holland Mouse Pseudomys novaehollandiae
Photograph by Heather Aslin

The New Holland Mouse *(Pseudomys novaehollandiae* Waterhouse 1843), a species of native rodent endemic to Australia, was caught for the first time in the Anglesea district in May 1981. By August 1981, seven different individuals had been trapped.

This is the western-most record for this species. Previously it had not been captured any further west that Langwarrin on the Mornington Peninsula (J. Dixon, pers. comm.), although remains of New Holland Mouse have been found in sub-fossil bone deposits from caves in western Victoria (Mahoney and Marlow, 1968). This fossil evidence indicates that the species was once more widespread than it is today.

The New Holland Mouse was discovered during a systematic trapping survey of native mammals in natural bushland, as part of a study of small mammals in the Anglesea area. Traps used in the survey were Elliott aluminium folding traps (34 x 10 x 10 cm) and larger wire mesh cages (36 x 20 x 20 cm). An area of 4 hectares, including different habitat types, was trapped, by setting the traps out in a grid pattern of 100 sites at 20 m intervals. Trapping was conducted over four consecutive days. The traps were baited with a mixture of peanut butter, rolled oats, and honey, because these baits are known to attract a wide range of small mammal species, despite differing dietary preferences. Sites were baited one day prior to setting the traps: this prebaiting procedure improves the initial capture rate. The traps were checked and cleared every morning. Any animals caught were indentified, then weighed and measured, and sex and reproductive status noted. Each animal was individually 'marked' by clipping a combination of toenails, so that it could be recognized if it was recaptured. This enables the movements of individual animals between points of capture to be recorded, and provides a rough estimate of the number of individuals of each species occupying the area sampled.

The New Holland Mice were captured in open woodland, where the vegetation consisted of Brown Stringybark *Eucalyptus baxteri,* with a low (< 25cm), fairly dense understory of heath plants and occasional dense clumps of taller (1-4m) shrubs: Sweet Wattle *Acacia suavolens* and a stunted, many-stemmed form of the Narrow-leaf Peppermint *E. radiata.* At the trap sites where the mice were captured, the ground cover was generally dense, but with patches of bare ground; dominant species were Common Heath *Epacris impressa,* Honey-pots *Acrotriche serrulata,* Dwarf She-oak *Casuarina pusilla,* Silver Banksia *Banksia marginata,* Heath Tea-Tree *Leptospermum myrsinoides,* Common Flat-pea *Platylobium obtusangulum,* and Wire Rapier-sedge *Lepidosperma semiteres.* There was also a shrub layer of Sweet Wattle *A. suavolens,* Myrtle Wattle *A. myrtifolia* and, sometimes, Narrow-leaf Peppermint *E. radiata.*

Other small mammal species captured in this trapping area were the native rodents Bush Rat *Rattus fuscipes* and Swamp Rat *Rattus lutreolus;* the marsupial mice Swamp Antechinus *Antechinus minimus,* Brown Antechinus *Antechinus stuartii,* and White-footed Dunnart *Sminthopsis leucopus;* and the introduced rodent House Mouse *Mus musculus.*

I was unable to identify the first New Holland Mouse immediately in the field, although I realised it was different from any species I had previously caught in the Anglesea district. At first glance, it appeared very similar to the House Mouse, being of equivalent size and having no distinguishing markings. However, the muzzle was different, being broader and pinker, and the eyes were larger and the ears appeared longer. Its tail and hind feet were also larger relative to body size; the fur was greyish-brown rather than fawn-brown; and the mouse lacked the "mousey" odour associated with the House Mouse. The feature which finally determined that this mouse was not merely a variant of *Mus musculus,* a very variable species, was the absence of the notch at the back of the upper incisors which characterizes the House Mouse (Watts and Aslin 1981). Finally I decided it was a member of the genus *Pseudomys,* and sent the specimen, alive, to the National Museum of Victoria, where it was identified.

In all, seven New Holland Mice have been caught in the study area: two females and five males. Capture sites have been at least 60m apart, although one female recaptured had moved about 90m overnight between points of capture. Thus the population appears to be sparse, but because of the distance the animals move, they are still likely to encounter other members of the same species. Further trials are being carried out at this trapping area, and on other areas of similar habitat, in order to determine more precisely the status of the species in the Anglesea district.

The recorded history of the New Holland Mouse is interesting. Until fairly recently it was known from only a few specimens, collected in northern New South Wales in the mid-1880's and held in the Gould collection in the British Museum (Natural History). It has been suggested that the supposed rarity of this species resulted from confusion with the House Mouse, which is very abundant and widespread, and from previous limited interest in collecting small mammals (Mahoney and Marlow, 1968). However, since 1967, when the New Holland Mouse was "rediscovered" at Ku-ring-gai Chase National Park near Sydney, there have been a number of records of the species. These indicate that it has a wide but patchy distribution from northern coastal New South Wales to just south of Sydney, in south-eastern Victoria, and in north-eastern Tasmania (Watts and Aslin, 1981). The first Victorian record was in 1970 at Tyabb (Seebeck and Beste, 1970), and since then there have been a number of additional records from coastal areas of eastern Victoria between Melbourne and Lakes Entrance (Watts and Aslin, 1981).

Studies of the ecology of the New Holland Mouse indicate that it prefers open forest with a dense sclerophyllous understory and a high proportion of legumes (Keith and Calaby 1968; Posamentier and Recher, 1974) or dry heathland actively regenerating from disturbance such as fire or clearing (Posamentier and Recher, 1974; Braithwaite and Gullan, 1978). A report from a study of small mammals at Cranbourne (Braithwaite and Gullan, 1978) suggests that although the New Holland Mouse is a "habitat specialist" it is a "food generalist". Predominantly a granivore, it also eats a variety of other foods including leaves, flowers, flowers, fungi, bryophytes, adult insects, and soil invertebrates (Watts and Braithwaite, 1978; Cockburn, 1980). Zoologists believe that the New Holland Mouse has a strong preference for heathland which is regenerating, because at this stage, this vegetation type is so productive, with a high diversity of plant species and therefore a diverse and predictable supply of food (Cockburn, 1978; Watts and Braithwaite, 1978). It is also found in habitats with a high proportion of acacias and other legumes, presumably because of the good food supply (Keith and Calaby, 1968).

The New Holland Mouse has been described as an opportunistic or fugitive species "which responds quickly to favourable conditions with great increase in numbers and then becomes uncommon or rare as the habitat changes . . ." (Posamentier and Recher, 1974). This rapid increase in numbers reflects the reproductive capacity of the species: females have been recorded as producing up to four litters in a breeding season (September to January), with four or five young per litter (Kemper, 1976). In many places where the mouse has been found, it has been reported to be very abundant (Posamentier and Recher, 1974). However the numbers steadily decline as a habitat matures and its composition, structure, and productivity consequently alter, so that it becomes less suitable (Braithwaite and Gullan, 1978). In extreme cases, local populations may become extinct. This implies that, for conservation of the species, its habitat must be managed so that there is always a mosaic of areas of differing maturity, or at differing stages of regeneration. It has been argued that this regeneration is best induced by disturbance by fire (Cockburn, 1978). Local environmental conditions influence the productivity and rate of maturation of vegetation and therefore affect the optimum frequency of such periodic burning. Too frequent burning may create a habitat as unattractive to the New Holland Mouse as mature vegetation (Posamentier and Recher, 1974). As there is, unfortunately, insufficient information on what is likely to be the optimum frequency of burning in various habitats, conservation of the species must continue on a trial-and-error basis until more is known of its ecology and its habitat requirements.

I should like to acknowledge with gratitude the assistance of Alcoa of Australia Ltd., which is funding this research; Joan Dixon, Curator of the Department of Mammalogy, National Museum of Victoria, for identifying the mouse; Lawrie Conole for safely transporting it to Melbourne for identification; Megan Kentish for assistance with trapping; and Tony Bourne for helpful comments on the manuscript.

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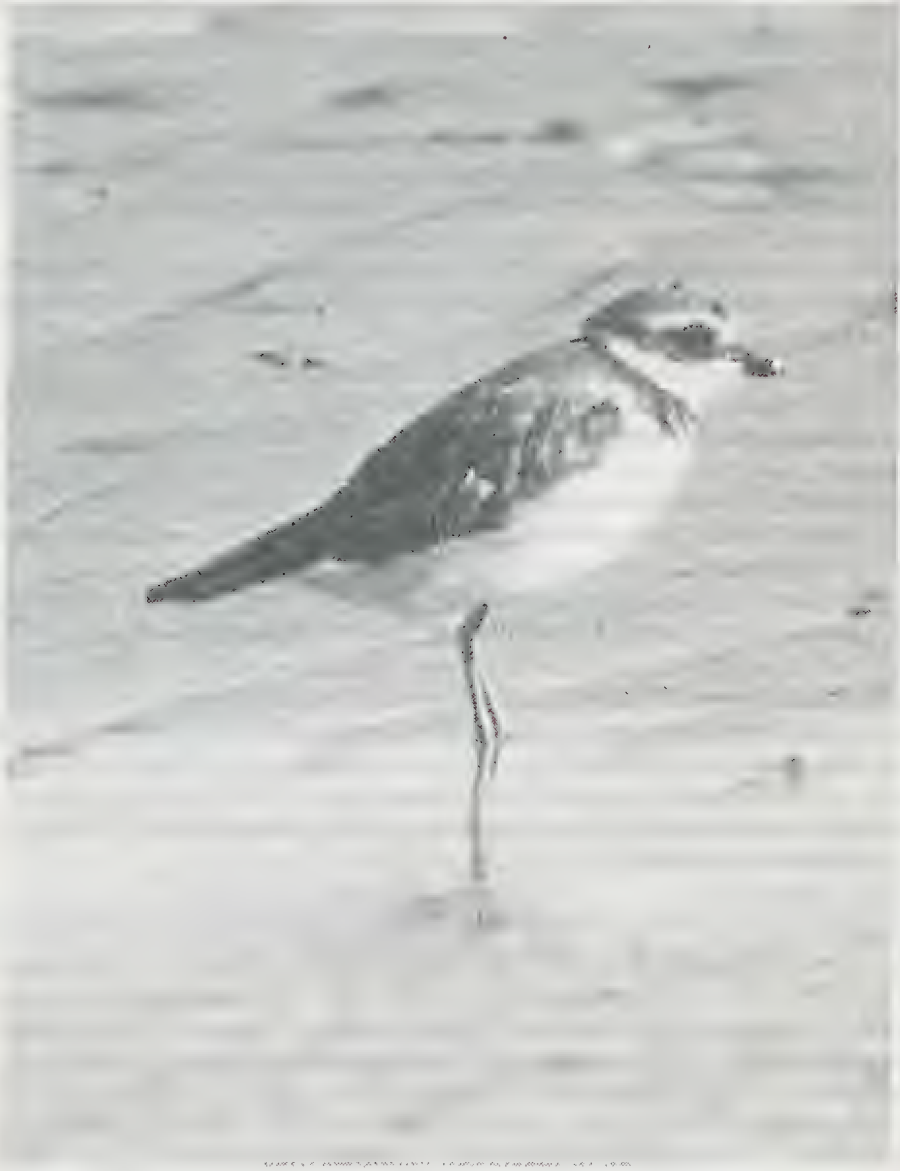
Kathryn M. Kentish, Broom Hills, Flaxbourne's Rd., Moriac, 3240

A Victorian Record of the Ringed Plover.

Brett A. Lane



Ringed Plover *Charadrius hiaticula*
Photograph by Trevor Pescott

INTRODUCTION

On 19th January, 1981, an adult Ringed Plover *(Charadrius hiaticula)* in winter plumage was observed feeding on mudflats near the Yacht Squadron immediately north of Queenscliff, 27 kilometres east of Geelong. This constitutes the first Victorian occurrence of this species.

This paper documents its behaviour in the area, and describes the characteristics used to identify the specimen, together with those which separate it from the similar Semipalmated Plover *(C. semipalmatus)* which breeds in northern Alaska and Canada and could conceivably accidentallv migrate to Australia.

The Ringed Plover breeds in Arctic and northern Eurasia, migrating south in the northern winter to north Africa and nearby coasts. It has only occasionally been recorded in southern Africa and South-east Asia. It has been observed in Australia a number of times before. As these occurrences are documented in McGill (1969) and Rix (1977), this information will not be reiterated here.

The bird was subsequently observed by many people, until 9th May by M.Cameron *(pers. comm.)*.

BEHAVIOUR

The bird was first observed in good sunlight around mid-morning using 8 x 30 binoculars at a distance of 15 metres. It was feeding in the typical "run-stop-tilt" manner of plovers. A notable exception to normal plover behaviour, however, was noted. When it stopped, it would rapidly tap the wet sand with one foot, before tilting to catch its prey. Thie behaviour is not commonly observed in other species of plover in Australia, and was seen in this bird a number of times subsequently by other observers. Its purpose is not certain, but it probably serves to stimulate movement of the prey, to enable the bird to easily locate and eat it.

When first observed, the plover was feeding on wet sand, amongst *Salicornia quinqueflora* herbfield near the high tide mark east of the Yacht Squadron. This was three hours after the high tide. Subsequent visitors found the bird at this exact place only at this state of tide. J. Pratt *(pers. comm.)* saw the bird at lower states of tide on tidal mudflats approximately 1 km distance, on the south-western side of Swan Island, at the southern end of the Queenscliff Golf Club. At other times, it fed along the water's edge, or on tidal sand and mudflats, around the sand island north of the Queenscliff Boat Harbour. When feeding it frequently associated with such small waders as Red-necked Stints *(Calidris ruficollis)* and Red-capped Plover *(Charadrius ruficapillus)*. Other waders present included large flocks of Curlew-Sandpiper *(Calidris ferruginea),* Red Knot *(C. canutus),* Great Knot *(C. tenuirostris),* Bar-tailed Godwit *(Limosa lapponnica),* and Eastern Curlew *(Numenius madagascariensis).* At high tide when its feeding grounds were covered, it usually roosted in company with Red-capped Plovers in a sheltered depression between sandhills on the sand island. This depression is sometimes flooded during spring tides, and the occasional shells, stones, and jetsam on its sandy floor provide camouflage for roosting waders.

At no time during its stay at Swan Island was it seen in any other habitat apart from tidal sand and mudflats.

FIELD IDENTIFICATION

A small to medium sized plover, with sandy brown upperparts and predominantly white underparts, was seen on the sandflats. The first specific characters noted were the broad black breast band, dark eye and ear-covert patch, and the white "ring" around the nape above the black band. Thus, it was identified as one of the "ringed-type" plovers (Ringed (*C. hiaticula),* Little Ringed *(C. dubius),* or Semipalmated (*C. semipalmatus)).* Further observation revealed an incomplete white stripe above the eye-patch, and in flight, a prominant white wing bar, thus eliminating Little Ringed. It was not until some days later, when D. Eades (*pers. comm.)* managed to obtain excellent views down to 10 metres in good light using a 20 x telescope, that the webbing of the feet was seen, and Semipalmated was ruled out. It had one partial web between the outer and middle toes compared to partial webbing between all fore-toes in the Semipalmated (Prater, Marchant and Vourinen, 1977).

The bird was slightly smaller than a Double-banded Plover *(C. bicinctus),* which were in the area on later occasions, and noticeably larger than the Red-capped Plover *(C. ruficapillus).* Unlike the former, however, it had a much more stooped stance, much like the Red-capped.

More detailed observation revealed that the breast band and other "black" areas were in fact blackish-brown. McGill (1969) and Rix (1977) observed this on their specimens. Towards April, these areas took on a much blacker appearance. The legs were orangey-yellow, becoming more orange later in the season. The bill was completely black, at first with no indication of paleness near the base. These features, combined with the lack of pale edging to the coverts and mantle feathers (as in juveniles) indicated that it was adult (i.e. greater than 15 months old) in winter (non-breeding) plumage. The darkening of the breast band, eye patch and frontal band through time suggest the bird was moulting into summer (breeding) plumage. The base of the bill became pale orange before the bird departed (Jonsson, 1976).

These observations reveal that it was behaving normally for a northern hemisphere breeding, trans-equatorial migrant wader.

After consultation with the literature, particularly Dukes (1980) account of a British occurrence of the Semipalmated Plover, further confirmation of the identification of the bird as a Ringed Plover was obtained. A comparison of the photographs of Semipalmated Plover in this paper with the Queenscliff bird, paying particular attention to the breast band width, showed that it had a broader band compared to that of the Semipalmated Plover. The band thinned only in the very middle, whereas in the latter species, it thins nearer the sides of the breast.

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Brett A. Lane, 518 Malvern Rd., East Prahran, 3181.

LORNE CAMPOUT 7 – 9 March, 1981

Leaders: Mammal Survey Group members – Grant Baverstock, Paul Moore and Lawrie Conole.

Most campers stayed from Saturday morning (7.3.81) to Monday afternoon (9.3.81) during which time the weather stayed fine and warm until late into the afternoon on Monday. The nights were quite cool, but daytime temperatures assured us of frequent encounters with snakes.

Twenty-three adults and three children attended almost all the activities held during the campout. Two members came down for the Sunday.

Saturday 7.3.81

Morning: Mt. Cowley, highest point in the Otway Ranges. The morning was spent in a walk from the summit down to the intersection of Garvey and Henderson Tracks.

Superb Fairy-wren – very plentiful; Eastern Yellow Robin – several observed, mostly heard; Yellow-tailed Black Cockatoo – a flock heard flying through; Grey Shrike-thrush - plentiful; Silvereye – very plentiful; Brown Thornbill – very plentiful; White's Thrush – glimpsed on several occasions; Grey Fantail – very plentiful; White-throated Treecreeper – several seen; Pink Robin – one male seen near the summit; Yellow-faced Honeyeater – several heard and seen; Striated Pardalote – very plentiful by call, not seen; White-browned Scrub-wren – several seen; Fan-tailed Cuckoo – one perched over the track; Red Wattlebird – plentiful; Rufous Fantail – plentiful; Eastern Spinebill – very plentiful; Crescent Honeyeater – very plentiful in denser undergrowth; Striated Thornbill – one flock of 10-12 seen; Rufous Whistler – several heard; Black-faced Cuckoo-shrike – a pair seen; Brown-headed Honeyeater – numerous throughout; Gang-gang Cockatoo – a small flock in the area; Brown Falcon – one flew overhead; Forest Raven –plentiful, very deep voice noted; Horsfield's Bronze-Cuckoo – one juvenile noted; Dusky Woodswallow – one seen; Brush Bronzewing – several flushed off roads; Swamp Wallaby – several bounded across the roads; McCoy's Skink *Hemiergis maccoyii* – one dead specimen found; skink *Leiolopisma coventryi* – one found on rotting log; frog *Geocrinia victoriana* –several specimens caught, many heard; Common Tiger Snake *Notechis scutatus* – one seen on nearby Erskine Rd.; White Shrimp *Phreatoicopsis* sp. – two found under a flat stone beside Garvey Track.

Afternoon-Evening: The late afternoon and evening were spent at the She-oak Picnic Area. A barbecue tea was enjoyed by all before they headed off with spotlights to look for mammals and nocturnal birds.

Purple-crowned Lorikeet – three flew through towards Lorne; Pied Currawong and Grey Currawong – plentiful; Forest Raven, Rufous Fantail, Laughing Kookaburra – several tame birds fed on our barbecue; Eastern Yellow Robin; White-browed Scrubwren; Golden Whistler.
After dusk: Tawny Frogmouth – seen on road by the first party to leave; Southern Boobook – many heard; Common Ringtail Possum – several seen, many heard; Common Brushtail Possum – two seen; Yellow-bellied Glider – one seen, many heard, weird shrieks of this mammal astounded the uninitiated; (Feral) Cat – one seen.

Sunday 8.3.81
Morning: St. George River walk to Phantom Falls and Allen Dam.

Australian King-Parrot – large numbers near orchard at start of walk; Pied Currawong; Laughing Kookaburra; Grey Currawong; Eastern Spinebill; Crimson Rosella – very plentiful; Crescent Honeyeater – very plentiful but elusive; Brown Thornbill; Grey Fantail; Silvereye; Red-browed Firetail – numerous in orchard; Yellow-faced Honeyeater; Common Blackbird – plentiful near house; House Sparrow; New Holland Honeyeater – very plentiful; White-throated Treecreeper; Gang-gang Cockatoo; Yellow-rumpped Thornbill – numerous in orchard; White-eared Honeyeater – plentiful; White-faced Heron – one on greenhouse in orchard; European Goldfinch; Superb Fairy-wren; Eastern Yellow Robin; Rufous Whistler; White-browed Scrubwren; Rufous Fantail; Grey Shrike-thrush; Striated Thornbill; Golden Whistler – uncommon; Olive Whistler – very plentiful and unusually obliging to observers; White-naped Honeyeater – common in canopy; Rose Robin – a well behaved male was seen by all; Forest Raven; Spotted Pardalote – plentiful; Striated Pardalote; Eurasian Coot – plentiful on Allen Dam; Hoary-headed Grebe – several on Dam: Pacific Black Duck – a pair on creek near Dam; Maned Duck – c. 30 perched on stumps in western corner of Dam; Purple Swamphen – three seen on edge of Dam; Yellow-tailed Black Cockatoo; Clamorous Reed Warbler – several in reeds; Little Pied Cormorant – two seen; Crested Shrike-tit – several noted; White's Thrush; Satin Bowerbird – male seen in river bed; Copperhead *Austrelaps superbus* – sloughed skin under rocks on wall of Dam; Southern Water Skink *Sphenomorphus tympanum* – plentiful; Three-lined Skink *Leiolopisma trilineatum* – plentiful in grassland around Dam; Garden Skink *Lampropholis guichenoti* – plentiful near human habitation; White's Skink *Egernia whitii* – one seen in open forest near Allenvale Rd.
Afternoon-Evening: During the afternoon we made our way up the Deans Marsh - Lorne Road to Benwerrin where sections of the old road made ideal walking tracks. We also visited the enormous Austral King-ferns *Todea barbara.* The old roads were well suited to spotlighting.

White-throated Needletail – hundreds overhead; Yellow Thornbill – a small group of 4-5 in Silver Wattles *Acacia dealbata;* Sulphur-crested Cockatoo – plentiful; Crimson Rosella; White-faced Heron – one on gravel pits; Scarlet Robin – several seen; New Holland Honeyeater; Eastern Yellow Robin; Spotted Pardalote; Forest Raven; Brush Bronzewing – one flushed off old road; Grey Currawong; Southern Water Skink; Common Eastern Froglet *Ranidella signifera* – common around ponds and drainage lines in the gravel pits; Brown-striped Frog *Limnodynastes peronii* – plentiful around large ponds; frog *Geocrinia laevis* – plentiful in heathy land adjacent to inundated gravel pits. After dusk: Southern Boobook – excellent views obtained of one, presumably the same bird which was hawking moths in pre-dusk period; Common Ringtail Possum – nine seen at close range; European Rabbit – two seen; Long-nosed Bandicoot – a car load of people saw one lingering in the headlight beams on their way back to Lorne.

Monday 9.3.81

Morning: The new Cora Lynn Cascades walk suggested by Don and Bert Alsop occupied the morning and early afternoon.

Grey Fantail; New Holland Honeyeater; Yellow-faced Honeyeater; White-throated Treecreeper; Crescent Honeyeater – very plentiful; Crested Shrike-tit – a pair seen; Rose Robin – calling; Grey Shrike thrush; White-browed Scrubwren; Rufous Whistler; Olive Whistler – very plentiful; Silvereye; Eastern Spinebill; Brown Thornbill; Australian King-Parrot – excellent views obtained of a pair feeding on the berries of Austral Mulberry *Hedycarya angustifolia* and Rough Coprosma *Coprosma hirtella;* Eastern Yellow Robin; Striated Thornbill; Golden Whistler – heard not seen; Crimson Rosella; Little Wattlebird – flock of 10+ near cascades; White's Thrush – several seen foraging on track; Wedge-tailed Eagle – pair soaring overhead; Rufous Fantail – bird displaying nesting behaviour, with a broken wing act; Forest Raven; Gang-gang Cockatoo – flocks moving through; Satin Bowerbird – male bird feeding on *C.hirtella* berries; Satin Flycatcher – several heard; Common Tiger Snake – several on track; Long-nosed Bandicoot – cranial fragments and mandibles found on track.

Lorne Foreshore Reserve, 7 – 9.3.81

Australian Magpie-Lark; Welcome Swallow; Yellow-faced Honeyeater; White-eared Honeyeater; Silvereye; White-browed Scrubwren; Red Wattlebird; Laughing Kookaburra; Pied Currawong; Forest Raven; Austalian Magpie; Masked Lapwing; Gang-gang Cockatoo; Crimson Rosella; Silver Gull; House Sparrow; Superb Fairy-wren; Little Wattlebird; Eastern Spinebill; White-throated Needletail – 4000-5000 moving eastwards along coast during afternoon of 7.3.81 in front of turbulence caused by weak weather change; Australian Kestrel – one flew over 7.3.81; Australian King-Parrot – many feeding on cultivated fruits in Lorne gardens; Common Blackbird; Southern Water Skink – common, Erskine River; Common Tiger Snake – three seen upstream of camp.

Totals: Birds – 71 species, Mammals - 8 spp., Reptiles - 8 spp., Frogs - 4 spp.

Lawrie Conole, 85 Clarence Street, Geelong West, 3218

Gang-gangs feeding on Galls on Wattles

Father A. Eames

During November 1980, in my presbytery garden in Anglesea, the Gang-gang Cockatoos *(Callocephalon fimbriatum)* fed greedily on galls in the Coastal Wattles – up to seven birds in one small wattle. The birds picked off little twigs with galls on them, held them in one foot, and bit the galls in half, to eat the little grub inside. The ground beneath the trees was carpeted with opened galls, leaves, and twigs.

Fr. A. Eames, St. John the Baptist Presbytery, Harding Street, Winchelsea, 3241.

GILBERT'S WHISTLER AT BANNOCKBURN

Ina McIntyre

The dry and apparently uninteresting bushland across the road from the Bannockburn golf course has proved over the years to be astonishingly rich in bird-life. All the same, when Lorna Chappell and I went bird-watching there one perfect autumn day in early April, we certainly didn't expect to see anything not already on the long list of birds we had seen in the area. So any birdo will appreciate our excitement when we not only saw a bird which neither of us had seen before, but one which doesn't belong in the area at all!

We were standing in the shade of some trees near a small dam on the edge of the forest, having a final look around before moving on to another spot, when a bird landed only a couple of metres from the ground in a tree on the opposite side of the dam.

As it moved about we had glimpses of a browny-grey back, a rufous patch on its throat and a black mark through its eye, and then to our surprise it flew directly towards us and, unaware of our presence, moved among low branches nearby, and we were able to confirm our earlier observations, and to note that it was like a whistler in appearance, but seemed larger than the Rufous and Golden Whistlers we usually see at Bannockburn.

Finally the bird moved on out of sight, giving as it went a variation of the typical whistler call. Of course we at once consulted Slater, and every detail fitted his description of Gilbert's Whistler, *(Pachycephala inornata)* a bird normally found in the dry mallee country north of the Divide. Even the size was right – 19 cms as against 17 cms for the Rufous and 16.5 cms for the Golden Whistler.

The unexpected sighting quite made our day!

Ina McIntyre 383 Myers St., East Geelong

PRESIDENT'S REPORT FOR 1980-1981

D. F. King

Once again, I have pleasure in reporting that another successful year has been completed, with membership still being maintained around the 500 level. This has been reflected in attendances at General Meetings. It has given great encouragement to your Committee who have continued to devote a great deal of time and effort to ensuring efficient running of this club. I have to announce three retirements from the Committee – Ted Errey, John Ealey and Geoff Mathison. These three members have given sterling service to the Club over many years, and will, I am sure, continue to play an important part by making available their wide experience to those that may need it. I thank them sincerely for their co-operation and service to the Club.

To all the Committee members I extend my grateful thanks. In particular, I must mention your Honorary Secretary, Valda Dedman, whose dedication and proficient secretarial work has played no small part in the efficient conduct of our affairs.

The past year has seen another series of successful activities, both excursions and General Meetings with guest speakers. Credit must go to the Sub-committee who formulated the year's activities and to the leaders of excursions and camp-outs. For reasons that are not clear, those excursions planned for bus transport have not attracted enough people to make the hire of a bus an economic proposition. This is a contrast to past years when it was necessary to provide up to three buses. Bus excursions will continue to be featured, as long as sufficient people are interested.

Special interest groups – Botany, Mammal and Bird groups – have flourished over the past year, adding ever-widening interest and experience. These groups are providing for the needs of those who wish to increase and broaden their knowledge of their particular area of interest. In addition, they are carrying out vital work in conducting surveys which, in the long term, will be of great value in determining habitat and ecological needs of many species. Not so reassuring is the status of the Junior Group which continues to function with very low attendance figures, although we have, I think, provided activities of wide appeal. This is a function of the Club that should be pursued with vigour, for, as I have expressed before, every encouragement should be given to the younger generation in appreciating the wonders of natural history and, in particular, those aspects of it that lie within our own small corner of the world. It is to be hoped that in the near future we can stimulate increased interest in this Group.

Again this year has seen a financially successful fete. The generosity of Mrs. Beryl Campbell in making her home and garden the venue has made this possible. My sincere thanks and appreciation go to Mrs. Campbell and to all those many people who prepared and manned the stalls, and to the people who generously provided numerous items for sale. In addition, I would like to thank the ladies who have done a magnificent job in providing items for the work stall that is a regular feature of our meetings.

Our Honorary Editor, Margaret Cameron, has continued to maintain a high standard of *The Geelong Naturalist.* Although costs of production were contained for a period we are experiencing once again the problem of higher costs.

The financial status of the Club, though not critical, is, nonetheless, at the stage where continued increase in financial commitments due to inflation, make it necessary to consider increasing our receipts in the form of increased subscriptions. Had it not been for generous donations to the Club and the receipts from the fete and work stall, the situation would have been cause for much greater concern.

D. F. King, 8 Traum Street, Portarlington, 3223

Geelong Field Naturalists Club
Treasurer's Statement — 1980/81
General Account

Receipts		Expenditure	
Subscriptions	$ 2042.70	Printing	$ 2073.55
Donations	979.60	Postage	225.02
Sale of Publications	225.20	Petty Cash	30.00
Fete	573.85	Subscriptions	205.50
Trading Table	83.50	Rent	23.50
Photoflora	119.70	Publications	357.93
Sundry	9.50	Insurance	148.52
		Office & Library	276.43
		Donations	170.00
		Photoflora	77.80
		Sundry	53.08
	$ 4034.05		$ 3641.33

Excess Income over Expenditure $ 392.72

Bank Reconciliation Statement to 2.3.81.

Bank Balance 3.3.80	$ 1642.22
Less Unpresented Cheques 58, 62, 69, 70, 71.	295.20
	1347.02
Plus unentered credit 4.3.80	42.00
Plus Income	4034.05
	5423.07
Less Expenditure	3641.33
	1781.74
Plus unpresented cheques 387, 910, 915, 920, 921, 922, 923	216.52
Plus interest 1.6.80	39.00
	2037.26
Less unentered credit 4.3.81	131.00
	1906.26
Less ISD 12.5.80	3.00
Bank Balance 2.3.81	1903.26

Excursion Account

Receipts		Expenditure	
Melba Gully Excursion	$ 161.00	Trans Otway	$ 209.00
Sundry	1.00		
	162.00		209.00

Excess Expenditure over Income $ 47.00

Bank Reconciliation Statement to 2.3.81.

Bank Balance 3.3.80	$ 137.43
Plus Unentered Credit	250.00
	387.43
Plus Income	162.00
	549.43
Less Expenditure	209.00
	340.43
Plus interests 1.6.80	18.04
30.7.80	59.21
2.2.81	70.44
Bank Statement 2.3 81	488.12

No. 3 Account

Receipts		Expenditure	
Donations	$ 1268.38	Postage	$ 37.50
		Stationery	15.00
		Transfer to Deposit Stock	2000.00
			2052.50

Bank Reconciliation Statement to 2.3.81.

Bank Balance 3.3.80	$1891.34	
Plus Income	1268.38	
Plus interest 1.6.80	65.18	
Plus interests 1.6.80	65.18	
31.1.81	49.04	
		3273.94
Less Expenditure		2052.50
Bank Statement 2.3.81		1221.44

Deposit Stock

General Account	$ 1500
No. 3 Account	$ 2000
	$ 3500

BOOK REVIEW

Valda Dedman

LEARNING ABOUT AUSTRALIAN BIRDS

by Rosemary Balmford,
Collins, 1980. $16.95 (recommended)

How does someone with a cursory interest in the birds around the garden become an enthusiastic bird watcher who goes out in wind and rain to some desolate swamp to look for a rare species? The reading of Rosemary Balmford's book, *Learning about Australian birds,* may well assist the transformation, and help to explain some of the fascination of bird observing.

Over recent years, in response no doubt to a growing interest in bird watching in this country, we have had a spate of new illustrated "coffee table" books, field guides, and books on various species and types of Australian birds. We have had an excellent book on bird behaviour – J.D. Macdonald's comprehensive *Birds for beginners,* and Ted Schurman's *Birdwatching in Australia,* which is a practical guide for the ordinary person but which takes little account of the more scientific aspects of bird observing. Not for twenty five years, since the publication in 1955 of P.A. Bourke's *A handbook of elementary bird study,* have we had a book which combines both the activity of bird watching with the systematic study of bird characteristics and behaviour.

Learning about Australian birds does just this, supplementing and updating Bourke's work, and reflecting a change in emphasis among many of today's bird watchers. Mrs. Balmford's method of approach is different, also. Whereas Bourke starts with a description of bird types, their physical features and behaviour, and goes on to the needs and activities of the bird observer, Rosemary Balmford takes us gradually and painlessly through the various aspects of bird-watching, and if we take her advice we will develop from someone with a casual interest into a dedicated bird observer, able to make scientific contributions to ornithological knowledge.

Let us see how she goes about this. The first chapter is entitled, "When and where to look for birds", and here she guides the beginner, opening our eyes and making us aware of what is around us, and sends us on our way:

> "So go out anywhere in Australia, at any time of day, at any time of year, and look for birds. Keep your eyes and ears open, and turn your head towards anything which moves. Look around you as you walk along, don't look at your feet, there are no birds there unless you are beachcombing."

Now, with our progression to a real bird watcher, she knows we will want to identify what we see, and the second chapter contains information on the various bird books available, advice on the choice of binoculars, and useful hints on distinguishing similar birds. "Attracting birds" is the subject of the next chapter, for Mrs. Balmford assumes, rightly, that having become more aware of birds, we will want more of them close by in our gardens. She knows, too, that we will want to spend more time birdwatching on our holidays, and includes some useful hints on clothing, travelling and camping.

By chapter five, "What to watch for", bird behaviour interests us as much as the mere identification of species, and so we progress, from simple personal records through bird counts, bird mapping, banding and marking, to research projects and writing for publication, and the last three chapters, on "Classification and naming," "Evolution", and "Birds past and present" are a response to our desire to read up on the background of our subject. A seventeen page bibliography will also help us to delve further.

The book is written in an easy style. Mrs. Balmford covers her subject with great thoroughness and an attention to practical detail. There is even advice on how to give a good "Bird talk"! It is an attractively produced work on good quality paper, illustrated with coloured photos by the author and Marc Gottsch, and by simple and effective line drawings by Rhyllis Plant.

I have one minor criticism. When organizations interested in bird study are discussed, there is not even a passing reference to Field Naturalists Clubs. As many naturalist clubs, including our Geelong one, have bird study groups, and as they are widespread throughout Australia, information about them would have been useful. All the Australian organizations listed are based in the capital cities.

This is certainly a good book for beginners, but it is also a book for the confirmed bird watcher. From it we can learn a great deal about Australian birds, and also how to go about finding out even more for ourselves, and how to share our knowledge with others. It is a book I would like to own.

Valda Dedman 69 North Valley Road, Highton, 3216.

HOUR COUNT No. 36
MANNING RIVER, THE KIMBERLEYS. W.A.

Roy Wheeler

On June 9, 1979 I flew with a party of Bird Observers Club members from Melbourne to Katherine in the Northern Territory, to start on a tour through the Kimberley Region of north-western Western Australia. From Katherine we travelled by bus to Kununurra in Western Australia. Our original intention was to go by the Gibb River Highway to Derby but heavy storms in this area had caused the Durack River to rise to two metres over the highway, and this caused us to reverse our original tour plans.

First we went to Halls Creek, and camped at the old township, the site of the first gold rush in 1885, when Charles Hall and Jack Slattery discovered gold there. The new town of Halls Creek is 14 km from the first location. Then we went on to Fitzroy Crossing and Geikie Gorge. Fossil algae, 300 million years old, can still be seen in the walls of the Gorge. We saw over 30 fresh water crocodiles during a boat trip up to the Gorge. Bird life was plentiful here along the mighty Fitzroy River. Then on to Derby, the Gateway to the Gorges, with its boab trees everywhere throughout the township and the nearby countryside. After Alexander Forrest's discovery of the then unknown Fitzroy and Ord rivers, Derby become established in 1880, and is now the centre of a vast rich beef-producing area. Then on to the picturesque Windjana Gorge where the Lennard River carved its way over millions of years through the remains of ancient coral reefs, reputed to be laid down beneath the sea 300 million years ago. Then on to the Manning River Gorge on the Mt. Barnett Station, a delightful spot, where we stayed four days. The Manning is a lovely wide cool river, fringed with pandanus palms, and covered in blue water lilies and quite an assortment of wildlife. Here, seated on chairs overlooking the river, and watching the numerous birds feeding on the flowering trees, mainly *Eucalyptus miniata* and *Grevillia pteridifolia* we did an Hour Count.

Manning River, Mt Barnett Station, Kimberleys, North-western Western Australia. June 24, 1979. Fine and warm. Scattered cloud and a westerly breeze. 9.15 to 10.15 am. Dr and Mrs B. Barraclough and Roy Wheeler.

Birds in order of sighting: Little Black Cormorant, 1; Brown Honeyeater, 22; Black-headed Pardalote, 3; Pied Butcherbird, 1; Mistletoe-bird, 2; Varied Lorikeet, 14; Little Corella, 66; Magpie Lark, 2; Bar-breasted Honeyeater, 7; Fork-tailed Kite, 1; Black-faced Woodswallow, 28; Brown Goshawk, 1; White-gaped Honeyeater, 1; Crow, 21; White Cockatoo, 2;

Yellow-fronted Honeyeater, 3; Rufous-throated Honeyeater, 4; White-winged Triller, 32; Black-faced Cuckoo-shrike, 1; White-faced Heron, 2; Banded Honeyeater, 4; Little Pied Cormorant, 1; Little Friarbird, 1; Whistling Kite, 1; Crimson Finch, 12; Double-barred Finch, 3; Red-tailed Black Cockatoo, 1; Yellow Figbird, 1; Black-tailed Tree-creeper,2.

Total 29 species and 240 individuals.

Leaving Manning River we journeyed back to Kununurra, then left Western Australia to spend a night at Victoria River, then went on to "Springfield" at Katherine (see An Hour Count 28 *Geelong Naturalist* Volume 15, No 4), then to Fogg Dam and Darwin N.T. A full account of this trip is published in *The Bird Observer* 579 March 1980. In all 185 bird species were recorded on this trip.

Roy Wheeler 59A Upton Road, Windsor, 3181.

Food for Kookaburra nestlings

Father A. Eames

A pair of Kookaburras excavated a nesting hollow in a tree in the presbytery grounds in Anglesea.

Most of the food fed to the young was skink lizards. On 17 November, 1980, however, I heard a loud noise and saw that it came from a Kookaburra fiercely smashing a young Startling many, many times against a branch, so forcibly in fact that the head and the legs were wrenched from the body. The rest of the Starling was made into a compact piece and fed to the young. On 23rd November a rat was caught, bashed a few times only, a fed whole to the young. On 1st December a Blue-tongued Lizard was caught by a Kookaburra, but was not seen to be fed to the young. In fact, the kookaburra seemed unable to decide what to do with such a large object. It flew away with the lizard, returned, and flew away again, still with the lizard. It was no trouble to the Kookaburra to give its loud laughing call with the Blue-tongued lizard in its beak. Three adult birds were seen to feed the nestlings. Strangely, the many local birds did not harry the Kookaburras, except for two Pied Currawongs, briefly. Two White-naped Honeyeaters even perched near the nesting hole.

Fr. A. Eames, St. John the Baptist Presbytery, Harding Street, Winchelsea, 3241

Observations of Glossy Ibis and Great Crested Grebes at the MMBW Farm, Werribee.

Ira Savage

Several members of the Victorian Wader Study Group spent the weekend of 8 – 9 November, 1980, at the MMBW Farm at Werribee, camping for the night at the No9 woolshed (the Werribee Hilton). At about 7 p.m. on the evening of 8th November, we saw 20+ Glossy Ibis *(Plegadis falcinellus)* flying over the woolshed, in a northerly direction.

On the morning of 9th November at about 8 a.m., at the estuary of the Little River, 50+ Great Crested Grebes *(Podiceps cristatus)* were observed feeding approximately 1 km out to sea. Although Great Crested Grebes are fairly common in the Bay, this seemed an unusually large flock.

Ira Savage, 42 Heytesbury Street, Herne Hill, 3218

LETTER TO THE EDITOR

Dear Madam,

I know "Letters to the Editor" are not a feature of the *Geelong Naturalist*, but perhaps you may care to publish the following, written in response to your Editorial of October, 1980.

Your comments on nomenclature of birds were most disturbing to me, as it is my sincere and strongly-held belief that the names you have chosen to adopt are inappropriate both for the *Geelong Naturalist* and for Australian bird observers in general.

Perhaps I should firstly point out that I have studied the R.A.O.U.'s *Recommended English Names for Australian Birds,* but am not at all convinced of the necessity for change – quite the contrary.

To change names such as warbler, plover, dotterel, etc., is not only unnecessary but confusing, especially to people unaware that any change has taken place. No wonder confusion occurs! It must be remembered that the majority of bird watchers are not members of any bird organizations, and that the majority of bird books belong to these people. Fortunately, such bird watchers have field guides which contain, for the most part, the older established bird names.

The use of the recommended new names will only widen the gap between ornithologists and those with less knowledge – that is why I believe that use of the "old" names is in the best interests of our birds.

What does it matter if some of our warblers are not strictly warblers, or our dotterels dotterels? Surely the point of the *scientific* name is to clarify relationships?

I recently wrote an article for publication in a bird magazine and was most disappointed to discover, on publication, that some names had been changed. The strangest part of the situation was that the article was a report on a group trip of some 20 bird observers – all of whom always used the "old" name when observing the bird in the field! Why then a different name when it came to publication? It makes one consider not contributing any more articles – and I know some authors who have already refused.

For my part, I hope to read in your magazine about the birds we know of as Mountain Ducks, Heath-wrens, Spur-winged Plovers, Stone-curlews and others – or has your policy put an end to these names? I sincerely hope not.

Yours faithfully,

Roger Thomas

P.O. Box 42,
LINTON,
Victoria, 3360.

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JOURNAL OF THE GEELONG FIELD NATURALISTS' CLUB

Hon Editor,
Margaret Cameron,
4 Connor Street,
East Geelong, 3219

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EDITORIAL

At last here is the August 1981 issue. I apologize to our patient readers, members and subscribers – this long delay is entirely the fault of the editor. The October 1981 issue will follow shortly, and from then on I expect (hope) to be up to date.

The varied subject matter of this issue will, I hope, inspire other local naturalists. Where are our entomologists? herpetologists? arachnologists? malacologists? myrmecologists? icthyologists? What butterflies and moths live in our region? What ferns, what fungi, what frogs? Share **your** knowledge and we'll all enjoy the world around us.

Margaret Cameron

12 MAR 1982

A Probable Record of the Yellow-bellied Sheathtail-bat
for the Brisbane Ranges National Park, Victoria.

Lawrie Conole

On 20th September, 1980 at *circa* 2200 hrs., I was participating in a spotlight survey of Anakie Gorge in the Brisbane Ranges National Park (Conole 1981.) When I reached the wall of the Lower Stony Creek Dam, I spotlighted a bat which I believed to be a Yellow-bellied Sheathtail-bat *Taphozous flaviventris* (Peters) (Emballonuridae). The wall of the dam is some 20-30m in height and the bat was flying at about 4-5m above the wall – thus placing it well above the canopy of the forest 60-70 downstream. Most Microchiropterans seem to be attracted to insects in the spotlight beam, but usually swoop through at little more than head height; this bat was making fairly rapid arcs through the periphery of the beam, contrasting markedly to the slow, fluttering flight of *Nyctophilus* spp. for example.

The bat was quite distinctive in appearance: jet black dorsum, extremely white ventrum, larger body size and longer wings relative to body size than the local genera of *Eptesicus, Nyctophilus* and *Chalinolobus.*

I believe that the bat I sighted was *T. flaviventris* for the following reasons:

(i) the contrast between dorsum and ventrum seen on *T. flaviventris* is not even approached by species such as *Nyctophilus timoriensis* and *N. geoffroyi,* which have a paler ventrum than dorsum; the only other black and white bat likely to occur in the area, *Tadarida australis,* does not have brilliant white abdominal fur but has white patches in the armpits.

(ii) *T. flaviventris* is almost twice the size of most local Microchiropterans except *Tadarida australis*, with which it shares the characteristic long, tapered wings.

(iii) the fast and relatively unmanoeuvrable flight, high over the canopy, that I observed, is typical of *T. flaviventris* and not associated with other species.

The ecology of *T. flaviventris* is poorly understood due to the paucity of information on the species (Greg Richards pers. comm.). It is rare, usually solitary in nature – although roosting groups of two to six have been found in late winter and spring; the species inhabits tree hollows and is known to use old hollows of the Sugar Glider *Petaurus breviceps* (Hall & Richards 1979).

It has a reputation for high flight over the canopy of the forest (Hyett 1980) and the flight is fast and relatively unmanoeuvrable.

An examination of Victorian specimens held in the collections of the Mammal Department, National Museum of Victoria, served to confirm the identification in my mind. The following table illustrates the scarcity of information on *T. flaviventris:*

Taphozous flaviventris specimens from Victoria held by the National Museum of Victoria.

C3710	Male	Port Fairy	Collected	21.5.1962
C5130	Male	Frankston		1.1.1909
C5131	Female	Winchelsea		20.3.1923
C8783	Male	Rosebrook		22.4.1969
C9062	Male	Warncoort		15.4.1969
C10063	Male	Sandringham		2.5.1971
C17647	–	East Burwood		June 1965
C18168	–	East Burwood		June 1965
C23892	Male	Altona		30.4.1928

ACKNOWLEDGEMENTS

I should like to thank Greg Richards for commenting on my original data and for advice regarding the format and content of this paper, and Joan M. Dixon, Curator of Mammals, National Museum of Victoria, for providing access to the collections and collector's information.

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Lawrie Conole, 85 Clarence St., West Geelong 3218.

Orange-bellied Parrots feeding in the shade

D. F. King

On Swan Island, in August 1980, early on an afternoon of bright sunshine, I saw a flock of 6 Orange bellied Parrots *(Neophema chrysogaster)* alight in the shade of a tree on one of the fairways of the golf course. Here they began to feed on the seed of Meadow Grass *(Poa sp.)*, moving through the shadow zone as they fed. Golf balls travelling close to them did not disturb their feeding.

As golfers approached the flock moved closer to the edge of the shadow zone, still feeding and showing no alarm. On reaching the edge of the shadow the flock took flight and alighted a short distance further down the fairway, again in the shadow of a tree. They proceeded to feed on the grass seeds, continually moving within the shadow zone, until they reached the shadow edge, when they again flew a short distance to another shadow area. This behaviour pattern was observed for a total of four consecutive cycles before the flock disappeared from sight.

Although the sun was bright it was in no way abnormally hot, so the temperature could not be considered as a major factor contributing to the behaviour of the parrots. Instead it appeared to be a means of providing optimum camouflage whilst feeding in an open situation. To the observer it was very evident that the green plumage of the birds blended well with shaded grass but became vastly more contrasting in sunlight.

D.F. King, 8 Traum Street, Portarlington 3223

Cape Gannet photographed at Wedge Light, Port Phillip Bay

Margaret Cameron

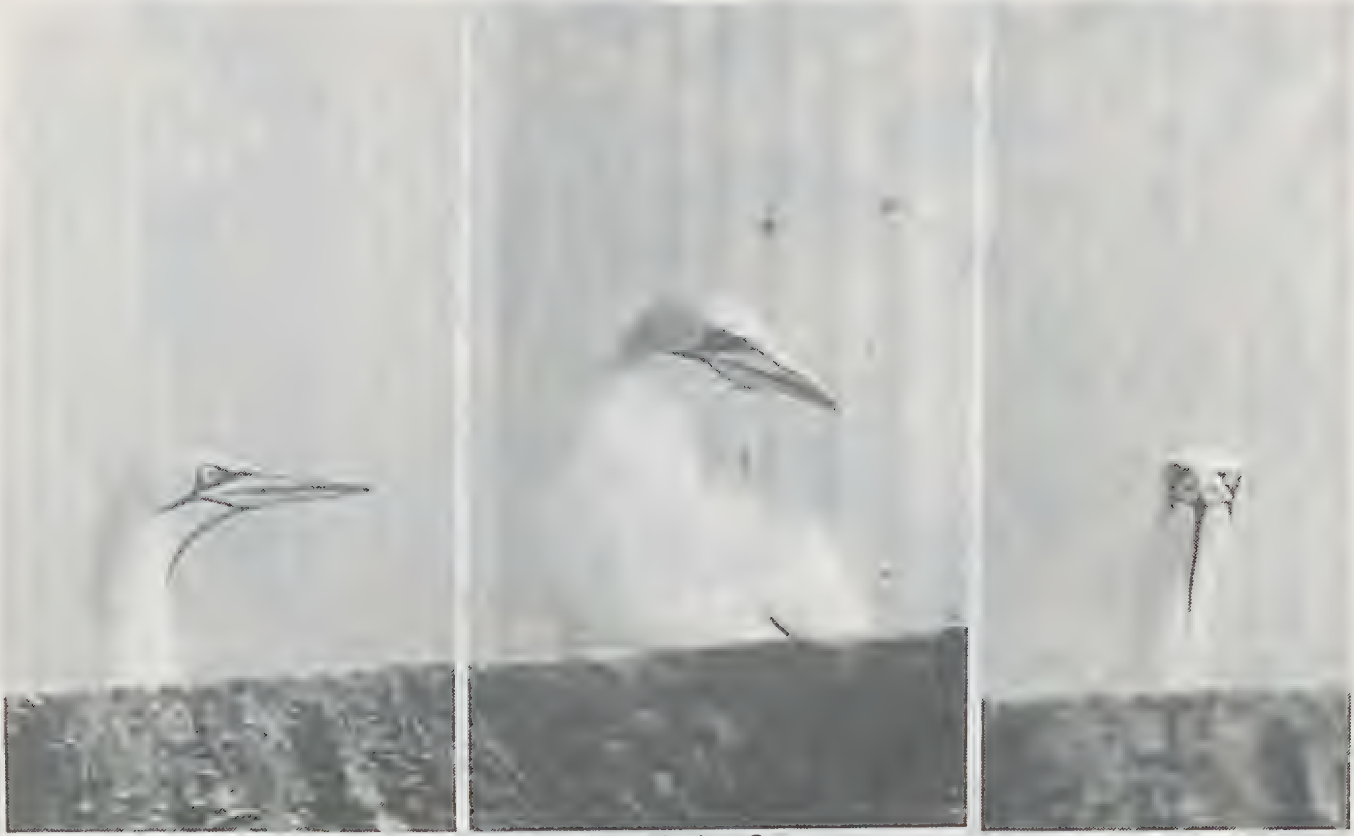
A Cape Gannet (*Morus capensis*), from Africa, was present in the Wedge Light colony of Australasian Gannets (*Morus serrator*) during the 1980-81 breeding season. Its presence was first reported by David Venn of the Fisheries and Wildlife Division, and details of the record are to be published in the *Victorian naturalist.*

A full account of both species is given in Nelson (1978), including discussion of the taxonomy and morphological features. Although most reference books say the species can be distinguished because the Cape Gannet has an all black tail while Australasian Gannets have white outer tail feathers, Nelson points out that "due to the variability of the tail in the Cape Gannet, some individuals differ from Australasians only in length of the gular strip." This strip of black skin on the throat is 13-19 mm long in the Cape Gannet, three or four times as long as in the Australasian Gannet; it helps regulate body temperature. During hot weather, the birds pant, flutter the gular strip (to produce a flow of air over the bare skin), and half close the eyes.

The photographs were taken with a 400mm lens from a boat, the birds being visible whenever the boat rose to the top of the 1.5 metre swells. I am grateful to Mr. John Pratt for the opportunity to see and photograph the Cape Gannet from his boat.

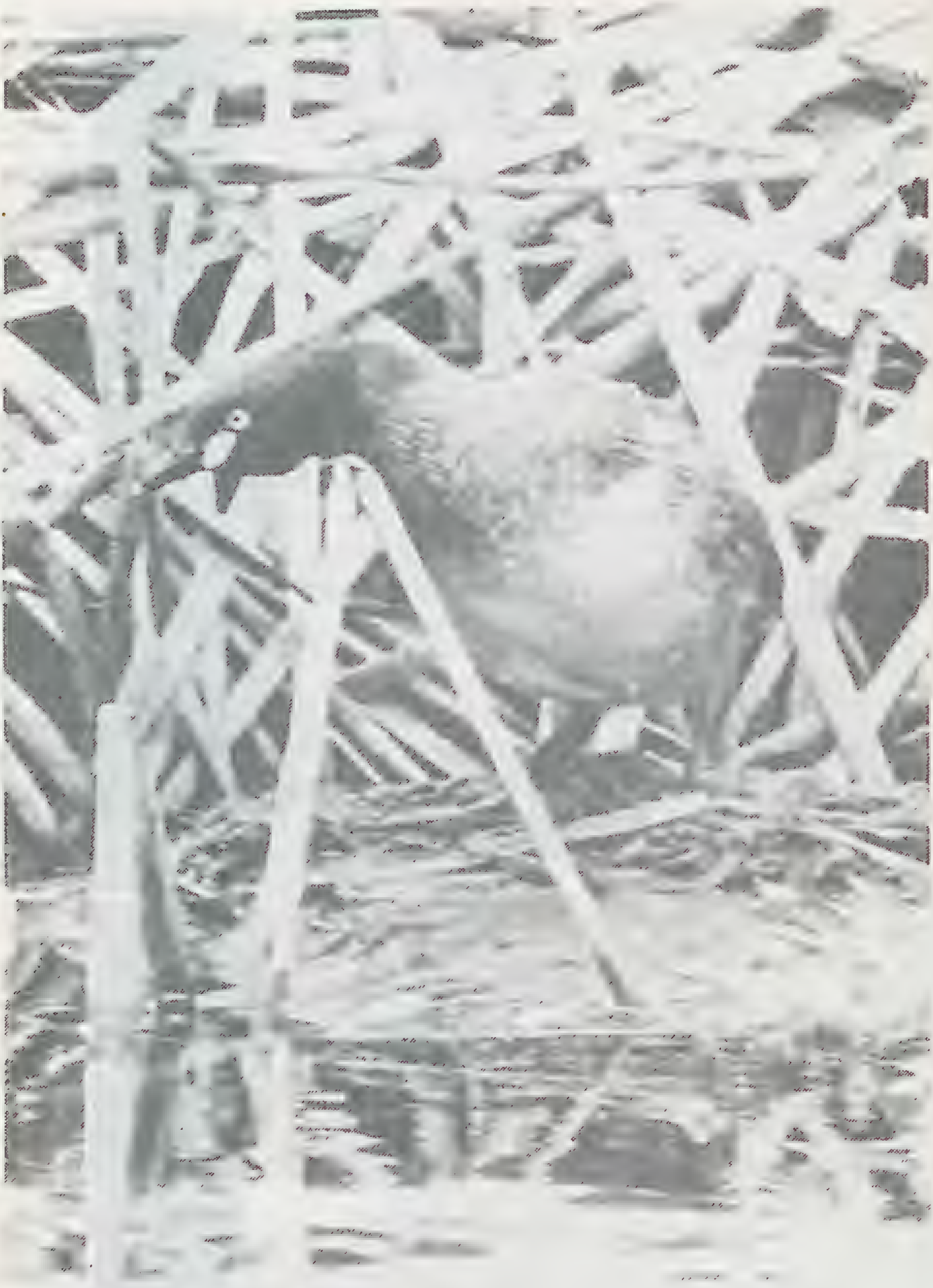
Nelson, J.B. (1978) *The sulidae: gannets and boobies.* Oxford, Oxford University Press for University of Aberdeen.

M.A. Cameron 4 Connor St., East Geelong, 3219



Gape Gannet Australasian Gannet Cape Gannet

Wedge Light, Port Phillip Bay, 24th January 1981.
Photographed by Margaret Cameron



Australasian Grebe on nest, Deakin University, Geelong, March 1981.
Photographed by Trevor Pescott

Australasian Grebes breeding on Deakin University lake: Observations on care of chicks

Jess and Arthur Collins

Saturday 4th April, 1981, 2.50 p.m. – 5.23 p.m. Weather calm, mild and overcast.

2.50 One adult (female) on nest with 4 chicks, the other adult diving and bringing food to chicks. Chicks preening.

2.55 Female (?) left nest and led chicks into a hole in the reeds, male (?) brought food. Female and 3 chicks returned to nest, one stayed in the water. Chicks on nest were brooded under adult's wings, while the other adult brought food. The chick in the water seemed to get the lion's share of food, being in a strategic position to intercept the bringer, though those on the nest came out at intervals for their share.

3.33 Both adults left the nest and swam over toward the island, the chick in the water following them. This chick was fed by both parents, 22 times in 4 minutes. Other chicks remained on nest, preening.

3.37 Both parents and the chick went out of sight behind the island.

3.44 Parents herded chick back to the nest. Female (?) climbed onto the nest and brooded three chicks under wings, one sitting beside her. Male (?) continued to bring food and chicks on the nest received it.

3.55 Male (?) was seen to gather strands of weed and place it on the nest.

4.00 Both adults and 3 chicks entered the water and swam toward island, feeding chicks as they went. 2 minutes later the 4th chick left the nest and joined the feeding party as they went out of sight behind the island. They were all next seen feeding along the retaining wall at the north end. Sometimes the food items were too small to be seen by us, at other times they hung from parent's beak and appeared to be small yabbies or pieces of grass or weed, possibly worms or insect larvae. At one stage one of the parents charged across the water toward two Black Duck feeding nearby, chasing them well away from the group of chicks.

5.00 4 chicks climbed on parent's back – a couple had tried to do this several times before, but the parent dived each time, dislodging them. This time they stayed there until the other adult brought food, when one of the chicks would enter the water to take what was going – hard to tell whether it was the same chick each time. This went on for further 19 minutes.

5.19 All returned to the nest. 4 chicks snuggled under the brooding bird's wings, while the other parent gathered weed and placed it on the nest, swimming backward and forward of the nest between times.

5.23 End of observation.

J. and A. Collins, 9 Warwick Street, Herne Hill, Geelong, 3218.

Editor's note: This family of grebes was the first on the new Library Lake at Deakin University.

The Library Lake is a small dam on the University campus, approximately 150m long and 50m wide, 2m deep at its deepest point when it is full, with an island approximately 15m by 40m. It was constructed in early 1978, and filled with water during a couple of heavy downpours during May 1978. In 1979 a patch of Cumbungi about 10m square grew at the western end, and towards the end of 1980 University grounds staff, noticing that odd clumps of Cumbungi were appearing elsewhere around the edge, sprayed all visible reeds with weedicide. All the reeds died except a small clump within the large patch, which otherwise formed a floating tangle of dead brown vegetation.

On 11th June 1979, there arrived at the lake an Australasian Grebe in immature plumage. This bird remained alone at the lake, except for short periods of absence, until February 1981. (This is an assumption, of course: regular observers assumed that the single bird seen on the lake from June 1979 onwards was the same bird on every occasion.) In the spring of 1980 it started to assume mature breeding plumage. When the reeds were sprayed and died, it disappeared from the lake for several weeks, returning in mid-January 1981. On 12th February 1981, a second Grebe appeared on the lake; this bird was assumed to be a female as it appeared to be slightly smaller and its plumage was a little less bright. A nest site was selected among the surviving green reeds, and nest building started almost immediately, on 18th February. The four striped chicks hatched on 1st April, so they were 3 days old when the above observation was made.

On 11th April, there were only 3 chicks, and on 23rd April the bird assumed to be the female had vanished, and only 2 chicks were present. One of these was very independent, finding its own food, and swimming alone around the lake. The other appeared to be totally dependent on the remaining parent, following him closely wherever he went and keeping up a continuous loud cheeping which could be heard more than 150m away, especially when the parent dived. On 30th April the independent chick was alone on the lake, but the next day an adult bird was also present, and the two remained there together until June. The immature bird finally left on 25th August 1981.

There's a pelican at the bottom of my garden!

Brian Burbage

Date: 21st April 1981
Time: 4.30 p.m. EST (approx.)
Location: Cnr. Dundas and Napier Streets, Inverleigh (29km west of Geelong)

Following uproar from my domestic animals (muscovy ducks, bantams, and greyhounds), I discovered, upon investigation, the presence of a pelican in an old bathtub which is sunk into the ground to provide swimming facilities for the ducks. The bath is in a small run and it was obvious that the pelican would be unable to take off from its confines. I therefore tried to drive the pelican from the run into an open space but it became so agitated that I left it to make its own escape. Within twenty minutes it had disappeared.

The following day a pelican was sighted by a neighbour on an adjacent vacant block.

Pelicans are infrequently seen on the Leigh River which is approximately 300m from the location concerned. They are considerably more common at the confluence of the Leigh and Barwon Rivers, which is about 900m away.

Brian E. Burbage, Dundas St, Inverleigh. 3221.

Galahs flying over the sea

Craig Morley

On 5th September 1980 at 5.40 p.m., at the Point Lonsdale Look-out, my attention was attracted by the calls of a small flock of Galahs *(Cacatua roseicapilla)*, and I noticed that 8 of them were flying due south over the Look-out Car Park, at a height of approximately 15-20 metres. As the birds approached the shoreline, 6 of them changed course and flew in a south-easterly direction, while the other 2 maintained the original southerly course for 30 seconds before turning to follow the main flock. The birds were still calling when they passed beyond hearing distance.

When the Galahs flew out of binocular range they were travelling in a generally south-easterly direction. No land mass was visible in line with this flight path. Cape Schanck is on a bearing approximately 60° north of the Galahs' flight path when they were lost from view, and the nearest land mass, Point Nepean, is a further 20° north of the Point Lonsdale – Cape Schank bearing.

Craig Morley 22 Fairmont Rd., Newtown, 3220

The Inverleigh Common and its Vegetation

E.G. Errey

The Inverleigh Common is an area of 1050 ha (2625 acres) between Inverleigh and Teesdale. It contains the only viable remnant of the district's original vegetation of manna gum and river red gum woodlands. The Land Conservation Council in their Final Recommendations in 1977 stated that "the conservation value of the land type remaining in this area is extremely high, and the Council believes that the area should be retained in a natural state . . . . and managed by the National Parks Service."

It is at present mainly Reserve Forest under the Forests Commission, on both sides of the Inverleigh-Teesdale road, with about half of the section east of the road being Common land under the jurisdiction of the Inverleigh Shire Council. This south-eastern portion includes a rubbish-tip, a gravel-extraction area, and the recently established Inverleigh Golf Course.

The whole area is grassy woodland, with native kangaroo grass and spear grasses, and introduced perennial veldt-grass being conspicuous species. More than two dozen orchid species have been listed, including the rare crimson sun-orchid, which flowered well there in spring 1981.

Botanical survey work was begun by Geoff Carr in the late 1960's, when he compiled a list of approximately 130 species. The club botany group has since increased this to over 170, almost 100 of which have been collected and pressed for use as reference material.

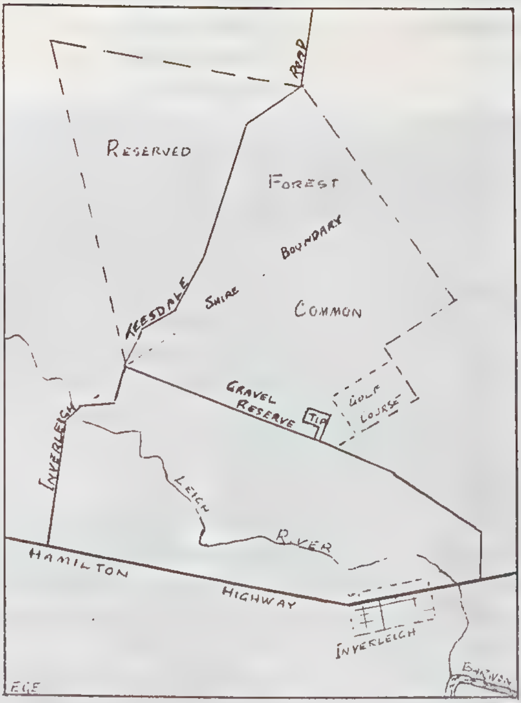
Native Plant List

Compiled by G.F.N.C. Botanists – to September, 1981

1. PTERIDOPHYTES

Adiantaceae	
Cheilanthes tenuifolia	Rock Fern
Dennstaedtiaceae	
Pteridium esculentum	Austral Bracken
Ophioglossaceae	
Ophioglossum coriaceum	Adder's Tongue

Inverleigh Common Area



2. SPERMATOPHYTES

A. MONOCOTYLEDONS

Cyperaceae	
Cyperus tenellus	Tiny Flat-sedge
Eleocharis acuta	Common Spike-rush
Eleocharis sphacelata	Tall Spike-rush
Lepidosperma congestum	Clustered Sword-sedge
Lepidosperma elatius	Tall Sword-sedge
Lepidosperma lineare	Little Sword-sedge
Schoenus apogon	Common Bog-rush
Scirpus marginatus	Club-rush
Scirpus nodosus	Knobby Club-rush
Hypoxidaceae	
Hypoxis glabella	Yellow Star
Hypoxis pusilla	Tiny Star
Juncaceae	
Juncus bufonius	Toad Rush
Juncus holoschoenus	Joint-leaf Rush

Juncus pallidus	Pale Rush
Juncus planifolius	Broad-leaf Rush
Juncus subsecundus	Finger Rush
Juncus usitatus	Tussock Rush
Luzula	Woodrush
Liliaceae	
Anguillaria dioica	Early Nancy
Bulbine bulbosa	Bulbine Lily
Burchardia umbellata	Milkmaids
Caesia vittata	Blue Grass-lily
Chamaescilla corymbosa	Blue Squill
Dianella laevis	Pale Flax-lily
Dianella revoluta	Black-anther Flax-lily
Dichopogon strictus	Chocolate Lily
Thysanotus patersonii	Twining Fringe-lily
Tricoryne elatior	Yellow Rush-lily
Orchidaceae	
Acianthus exsertus	Gnat Orchid
Acianthus reniformis	Mosquito Orchid
Caladenia deformis	Blue-beard Caladenia
Caladenia dilatata	Green-comb Spider-orchid
Caladenia latifolia	Pink Fairies
Caladenia patersonii	Common Spider-orchid
Chiloglottis reflexa	Autumn Bird-orchid
Corybas diemenicus	Slaty Helmet-orchid
Diuris longifolia	Wallflower Orchid
Diuris maculata	Leopard Orchid
Diuris pedunculata	Golden Moths
Diuris sulphurea	Tiger Orchid
Eriochilus cucullatus	Parson's Bands
Microtis parviflora	Slender Onion-orchid
Microtis unifolia	Common Onion-orchid
Prasophyllum nigricans	Midge Orchid
Pterostylis concinna	Trim Greenhood
Pterostylis curta	Blunt Greenhood
Pterostylis nana	Dwarf Greenhood
Pterostylis parviflora	Tiny Greenhood
Pterostylis pedunculata	Maroon-hood
Pterostylis revoluta	Autumn Greenhood
Thelymitra antennifera	Rabbit-ears
Thelymitra ixioides	Dotted Sun-orchid

Green-comb Spider-orchid *Caladenia dilatata*
Photographed by Lawrie Conole

Slaty Helmet-orchid
Corybas diemenicus

Climbing Sundew
Drosera planchonii
Photographs by Lawrie Conole

Thelymitra longifolia	Scented Sun-orchid
Thelymitra luteocilium	Fringed Sun-orchid
Thelymitra macmillanii	Crimson Sun-orchid
Thelymitra pauciflora	Slender Sun-orchid
Thelymitra carnea	Salmon Sun-orchid
Poaceae	
Agrostis avenacea	Common Blown-grass
Danthonia caespitosa	Common Wallaby-grass
Danthonia setacea	Bristly Wallaby-grass
Poa spp.	Tussock Grasses
Stipa mollis (hemipogon)	Spear-grass
Stipa semibarbata	Fibrous Spear-grass
Themeda australis	Kangaroo Grass
Xanthorrhoeaceae	
Lomandra filiformis	Wattle Mat-rush
Lomandra micrantha	Small-flower Mat-rush
Lomandra multiflora	Many-flowered Mat-rush

B. DICOTYLEDONS

Amaranthaceae	
Alternanthera denticulata	Lesser Joy-weed
Ptilotus erubescens	Hairy-tails
Ptilotus macrocephalus	Feather-heads
Ptilotus spathulatus	Pussy-tails
Apiaceae	
Hydrocotyle hirta	Hairy Pennywort
Hydrocotyle laxiflora	Stinking Pennywort
Hydrocotyle sibthorpioides	Shining Pennywort
Asteraceae	
Cassinia longifolia	Shiny Cassinia
Cotula australis	Common Cotula
Cymbonotus preissianus	Austral Bear's-ears
Gnaphalium luteoalbum	Jersey Cudweed
Gnaphalium sp. (unnamed)	Cudweed
Helichrysum apiculatum	Common Everlasting
Helichrysum scorpioides	Button Everlasting
Helipterum albicans	Hoary Sunray
Helipterum australe	Common Sunray
Helipterum demissum	Moss Sunray
Leptorhynchus squamatus	Scaly buttons

Microseris scapigera	Yam-daisy
Minuria leptophylla	Minnie Daisy
Senecio glomeratus	Annual Fireweed
Senecio quadridentatus	Cotton Fireweed
Vittadinia cuneata	Woolly New Holland Daisy
Vittadinia triloba	Common New Holland Daisy
Boraginaceae	
Cynoglossum suaveolens	Sweet Hound's Tongue
Brunoniaceae	
Brunonia australis	Blue Pincushion
Campanulaceae	
Wahlenbergia communis	Tufted Bluebell
Wahlenbergia gracilenta	Annual Bluebell
Wahlenbergia stricta	Tall Bluebell
Casuarinaceae	
Casuarina littoralis	Black Sheoak
Casuarina stricta	Drooping Sheoak
Chenopodiaceae	
Rhagodia nutans	Nodding Saltbush
Convolvulaceae	
Convolvulus erubescens	Blushing Bindweed
Dichondra repens	Kidney-weed
Crassulaceae	
Crassula decumbens	Spreading Crassula
Crassula sieberana	Sieber Crassula
Dilleniaceae	
Hibbertia stricta	Erect Guinea-flower
Droseraceae	
Drosera glanduligera	Scarlet Sundew
Drosera peltata	Pale Sundew
Drosera planchonii	Climbing Sundew
Drosera whittakeri	Scented Sundew
Elatinaceae	
Elatine gratioloides	Waterwort
Epacridaceae	
Astroloma humifusum	Cranberry Heath
Leucopogon virgatus	Common Beard-heath
Fabaceae	
Bossiaea cinerea	Showy Bossiaea
Bossiaea prostata	Creeping Bossiaea
Daviesia ulicifolia	Gorse Bitter-pea

Dillwynia glaberrima	Smooth Parrot-pea
Dillwynia hispida	Red Parrot-pea
Dillwynia sericea	Showy Parrot-pea
Eutaxia microphylla	Common Eutaxia
Glycine latrobeana	Clover Glycine
Kennedia prostrata	Running Postman
Platylobium obtusangulum	Common Flat-pea
Gentianaceae	
Geranium solanderi	Austral Crane's-bill
Pelargonium australe	Austral Stork's-bill
Pelargonium rodneyanum	Magenta Stork's-bill
Goodeniaceae	
Goodenia geniculata	Bent Goodenia
Goodenia pinnatifida	Cut-leaf Goodenia
Goodenia p. A (unnamed)	
Velleia paradoxa	Spur Velleia
Haloragaceae	
Gonocarpus tetragynus	Common Raspwort
Haloragis heterophylla	Varied Raspwort
Hypericaceae	
Hypericum gramineum	Small St. John's Wort
Lamiaceae	
Ajuga australis	Austral Bugle
Prostanthera nivea	Snowy Mint-bush
Lobeliaceae	
Isotoma fluviatilis	Swamp Isotome
Lobelia pratioides	Poison Lobelia
Loranthaceae	
Amyema pendulum	Drooping Mistletoe
Muellerina eucalyptoides	Creeping Mistletoe
Lythraceae	
Lythrum hyssopifolium	Small Loosestrife
Mimosaceae	
Acacia armata	Hedge Wattle
Acacia mearnsii	Black Wattle
Acacia melanoxylon	Blackwood
Acacia pycnantha	Golden Wattle
Myrtaceae	
Eucalyptus camaldulensis	River Red Gum
Eucalyptus viminalis	Manna Gum

Leptospermum juniperinum	Prickly Tea-tree
Leptospermum myrsinoides	Silky Tea-tree
Onagraceae	
Epilobium billardierianum	Robust Willow-herb
Epilobium cinereum	Variable Willow-herb
Oxalidaceae	
Oxalis corniculata	Creeping Wood-sorrel
Pittosporaceae	
Bursaria spinosa	Sweet Bursaria
Plantaginaceae	
Plantago varia	Variable Plantain
Polygonaceae	
Polygonum prostratum	Creeping Knotweed
Portulacaceae	
Calandrinia calyptrata	Pink Purslane
Neopaxia australasica	White Purslane
Proteaceae	
Banksia marginata	Silver Banksia
Ranunculaceae	
Clematis microphylla	Small-leaf Clematis
Ranunculus sessiliflorus	Annual Buttercup
Rhamnaceae	
Cryptandra tomentosa	Prickly Cryptandra
Rosaceae	
Acaena anserinifolia	Bidgee-widgee
Acaena echinata	Sheep's Burr
Rubiaceae	
Asperula conferta	Common Woodruff
Asperula scoparia	Prickly Woodruff
Opercularia ovata	Variable Stinkweed
Santalaceae	
Exocarpos cupressiformis	Cherry Ballart
Sapindaceae	
Dodonaea cuneata	Wedge-leaf Hop-bush
Solanaceae	
Solanum laciniatum	Kangaroo Apple
Stackhousiaceae	
Stackhousia monogyna	Creamy Stackhousia
Stylidiaceae	
Stylidium inundatum	Hundreds and Thousands

Thymelaeaceae	
Pimelea curviflora	Curved Rice-flower
Pimelea humilis	Common Rice-flower
Violaceae	
Hymenanthera dentata	Tree Violet
Viola hederacea	Ivy-leaf Violet
Viola sieberana	Tiny Violet

E.G. Errey, 3 Leonard St., Belmont, 3216

An Interspecies Battle: Gang-gangs and Red Wattlebirds

Jess and Arthur Collins

On Easter Sunday afternoon, 1981, a dull damp day, we were drawn out-of-doors by an unusual medley of screeching and squawking. A small flock of Gang-gang Cockatoos (*Callocephalon fimbriatum)* including males, females and immatures had lighted on our tall silver birch and were busy stripping ripe catkins. Our resident Red Wattlebird community *(Anthochaera carunculata)* was apparently outraged by this usurpation of their habitual high perches, and battle had been joined. The Gang-gangs were harassing the wattlebirds, dislodging them from their perches on the tree and nearby television aerials and chasing them back and forth. The wattlebirds were fighting back, chasing the cockatoos and viciously pressing home their attacks. The cockies, on the other hand, seemed to be more playful than serious, and broke off from chasing to perform acrobatics on the aerial rods, hanging head downward while looking around as if expecting applause.

This went on for twenty minutes or more, until the cockies apparently tired of their game and drifted off to the trees in a nearby reserve, leaving the wattlebirds in possession of the field. There would seem to be little reason for such a squabble, other than unappreciated playfulness on the part of the cockatoos and a determination to defend their home range by the wattlebirds. The latter appeared somewhat panicked, as on occasion wattlebirds chased each other and a passing raven was also attacked and seen off.

Previous to this, Gang-gangs have frequently visited our garden in small numbers without any apparent reaction from the wattlebirds, as one would expect of birds occupying such different ecological niches. Individually, wattlebirds are the bullies of the garden, all other birds making way for them at the syrup feeders. We have little doubt that they were the aggressors in this incident, the first time we have seen them presenting an united front.

Jess and Arthur Collins, 9 Warwick Street, Herne Hill,
Geelong, Victoria, 3218.

HOUR COUNT No. 37
ATHERTON, NORTH QUEENSLAND
Roy Wheeler

The now famous tourist area, the Atherton Tableland of northern Queensland, was first seen by white man in 1875 when James Venture Mulligan, an explorer and prospector, passed through it on one of his many expeditions. It was near here that Mulligan met John Atherton, a pioneer grazier who also did explorations, after whom the Tableland was named. Tin mining was the first industry in this heavily wooded area of tropical rain forest. The town of Herberton high in the ranges was the first tin mining town, and one of the first roads built in the area was the Mulligan Highway which linked the inland with the coast at Port Douglas, north of Cairns. Bullock teams carried provisions, machinery and other heavy material over this road. On the road was a small camp called Prior's Pocket which later became the town of Atherton as we know it today. The first town lots were sold in February 1886. It was then the centre of the lumber industry, when kauri pine and red cedars were the most sought after timber, and slowly but surely the great forests gradually diminished. Now only pockets remain, such as those near Lakes Barrine, Eacham and Euramoo, the Curtain Fig and the Crater, and other smaller areas. The first school was opened in 1895. In 1903 the railway from Cairns passing through Kuranda and Mareeba finally reached Atherton after 20 years of effort. Development proceeded fast, with the Cairns-Atherton Dairy and Ice Co in 1905, the first hospital in 1908, the maize industry in 1923, peanuts in 1929, and the power house completed in 1927. The Gillies Highway was opened in 1925, a most important event for the whole of the Tableland, which made it possible to visit the coast and return in one day. Black bean and walnut from the Atherton District were used in re-building the House of Commons in London after the Second World War, during which thousands of Australian and other troops were stationed on the Atherton Tableland. There is a well-kept cemetery containing many graves of those who died there. In 1955 the Queensland Irrigation and Water Supply Commission commenced the construction of the huge Tinaroo Dam on the Barron River, some 16 kms from Atherton. Atherton is now a prosperous and beautiful town with a population approaching 4000.

Some 8 kms south of Atherton is Hasties Swamp, a fine fresh water haven for water birds, surrounded by open forest. It was here that Mrs. Suzanne Cameron and I did an hour count. Suzanne is the R.A.O.U. Atlas representative for the Tablelands. She and her husband Dr. Bruce Cameron, both

Tasmanians, are most interested in the wildlife of the area. Mrs. Cameron and I listed 103 species in one day's observing during my stay.

Atherton, North Queensland. Hasties Swamp 8 kms south of town. October 27, 1979.

Fine with some cloud on the ranges and a south-west breeze. 6.30 to 7.30 a.m. Seated at the southern end of the swamp, Suzanne Cameron and Roy Wheeler.

Birds in order of sighting: Black Kite, 6; Whistling Kite, 4; Sarus Crane, 40 Pied Goose, 200; Whistling Tree-duck, 70; Black Duck, 15; Swamphen, 25; Dusky Moorhen, 6, Coot, 22; Great Egret, 4; White-faced Heron, 2, Forest Kingfisher, 2; Grey Teal, 2; Dollar-bird, 2; Eastern Yellow Robin, 1; Glossy Ibis, 4; Royal Spoonbill, 8, Clamorous Reedwarbler, 1; Common (Indian) Myna, 1; White-eyed Duck, 3; Greenshank, 5; Sharp-tailed Sandpiper, 4; Masked Lapwing (Plover), 4; Yellow-faced Honeyeater, 2; Scarlet Honeyeater, 2; Rufous Whistler, 2; Rufous Night Heron, 2; Little Pied Cormorant, 2; Black-winged Stilt, 4; Lewin's Honeyeater, 6; Pacific Heron, 1; Magpie Lark, 2; Willie Wagtail, 1; Grey Swiftlet, 4; Little Grebe, 4; Straw-necked Ibis, 1; Plumed Egret, 1; Crow, 1; Channel-billed Cuckoo, 1; Brolga, 2; Rufous Thrush, 2; White Ibis, 2; Latham's (Japanese) Snipe, 2.

Total 43 species and 473 individuals.

A count the previous day at the same area but a little later in the day, 9 to 10 a.m., produced 35 species and 232 individuals. Olive-backed Oriole, Silvereye, Sacred Kingfisher, Plumed Tree Duck, Nankeen Kestrel and Lotus Bird were additions to the list above.

I would like to thank Suzanne Cameron for her interest and for supplying me with the *History of Atherton,* published by the Atherton Shire Council in 1972.

Roy Wheeler 59A Upton Rd., Windsor, 3181.

BOOK REVIEW

Lawrie E. Conole

THE RODENTS OF AUSTRALIA

By C.H.S. Watts & H.J. Aslin. 240 x 160mm. pp. 321. 16 plates of colour photographs. Line drawings of skulls and distribution map for every species. End maps. 1981. Angus & Robertson, Australia. Price $35.00.

This book is outstanding among Australian natural history publications.

It is arranged in three sections: the first two are an introduction and a systematic treatment of Australian rodents, and section III covers working with Australian rodents. In addition, the appendices give exhaustive references to the literature.

I, Introduction to Australian Rodents, is a brief but fascinating account of rodents and their origins on a world-wide basis, and more detailed coverage of Australian rodents. The nomenclature is explained and the rationale behind the subfamilies of Conilurini, Uromyini, Hydromyini and Murinae established. The past and present distribution of Australian rodents is considered next and makes interesting, albeit sometimes disturbing, reading. The concept of the relict species fires the imagination to contemplate the rich mammal fauna of Australia's prehistory period. In the next part – Biology – habitat preferences, life strategy, sociology and physical adaptions are discussed. The desert rodents, for example, have adapted remarkably well to this dry and apparently inhospitable region. Scientific and common names, problems in species determination and identification, and the binomial system of scientific naming and associated protocol, are explained. The use of the common names prescribed by the Australian Mammal Society in 1980 is advocated, but unfortunately with some exceptions. Some of the problems involved in determining species are explained; for example, the accepted biological test of a species is that its members do not interbreed with other species, and if they do, the offspring are infertile or of lowered fertility. This concept is of little assistance if the species never meet in nature. Some of the characteristics used in rodent identification such as skull characteristics, scalation of the tail, prehensile ability of the tail, and number of teats are outlined, and their relative importance explained.

The Systematic Treatment of Australian Rodents, section II, is superb. Staring with an explanation of the format and terms used, it progresses through a silhouette and distributional breakdown of the rodent groups and a pictorial guide to the skull characteristics of the genera, before reaching the individual accounts of the species. In the systematic treatment an introduction to the genus includes the general morphology and natural history of the genus as a whole. On a species level, synonyms are given for the current binomial, then a detailed physical description of the animal including a line drawing of the skull. Detailed measurements based on field research are given for each species. A map accompanies the distribution and habitat description, with details on the living animal and fossil records. The last category in the species account is entitled Biology and this covers all known aspects of the behaviour, ecology etc. and even an occasional anecdote.

Of particular interest in this section is the first published information on a comparatively newly discovered rodent for Australia — the Prehensile-tailed Tree-mouse *Pogonomys mollipilosus.* It is well known in New Guinea but was discovered in northern Queensland only in 1973. Information on species such as this and other obscure or newly discovered species is a feature of the book.

The fifty colour photographs illustrate sixty one species, many of which have never been seen in any previous publication. The photographs are all of a very high standard and detailed background on all the pictures is given in Appendix I. Whilst being useful in identification, I feel that they should not be used to the exclusion of the excellent descriptions in the text.

Section III Working with Australian Rodents is a very useful and practical account of general legislation applying to native rodents, collecting, handling, transporting, keeping, sexing and preserving of rodents. A list of State Museums accompanies a brief explanation of the importance and methods of sending specimens to a Museum.

I congratulate Chris Watts and Heather Aslin on an excellent reference to one of our least understood and most maligned groups of native mammals, and await with some considerable anticipation a work of comparable quality on another group of Australian mammals — perhaps the Dasyuridae or Macropodidae.

This book will surely be welcomed by all serious students of Australian mammals.

Lawrie Conole, 85 Clarence St., West Geelong 3218.

Watch for these!

M. Cameron

1. Colour-banded Cattle Egrets

As part of a study aimed at understanding more about the life history of the Cattle Egret *(Ardeola ibis)*, several hundred are now being colour banded each year by researchers. Please check to see if any Cattle Egrets you observe are wearing coloured leg bands. The Cattle Egrets concerned are each wearing 3 bands: one numbered metal band and two coloured plastic bands.

The information required is the date and place of the sighting, the colour and exact position of each of the three bands (i.e. whether it was on the left or right tarsus – the lower part of the leg – or on the left or right tibia – the upper part of the leg), and the observer's name and address (so that the observer can be thanked and told where and when the Cattle Egret was banded).

Sightings should be reported to The Secretary
Australian Bird Banding Scheme
Division of Wildlife Research
CSIRO
P.O. Box 84
Lyneham A.C.T. 2602

2. Breeding sites of Herons, Egrets, Bitterns and Spoonbills

Knowledge of the breeding biology of these species – some of which are pretty common – is relatively meagre, and they are being studied by Kim Lowe at Melbourne University. He asks that any records of breeding be sent or notified to him AS SOON AS POSSIBLE after nests are located, so that significant sites can be documented fully.

Please write or telephone any information to Kim Lowe
Zoology Dept
University of Melbourne
Parkville, Vic., 3052
Phone: Business hours 3416244, After hours 3806816 (to 11.00 p.m.)

3. Hooded Plovers (Hooded Dotterels)

475 Hooded Plovers *(Charadrius rubricollis)* were counted in Victoria in the survey carried out in October 1980.

In June 1981, 9 were caught and colour banded at Point Lonsdale. They have a metal band on the right leg and a red band on the left leg. Please report any colour-banded Hooded Plovers seen to Brett Lane,
518 Malvern Rd.,
East Prahran 3181

In fact Brett is always interested in information about Hooded Plovers, especially winter reports. If anyone saw or sees Hooded Plovers, please tell Brett how many, where (including sketch map if possible), date, and how long they stayed if you visited the place more than once.

4. Pied Oystercatchers

Some Pied Oystercatchers *(Haematopus longirostris)* were colour-banded with blue leg bands at Werribee in 1980. Several have already been reported at Altona, Mud Island and Queenscliff — Pied Oystercatchers move about quite a lot. (A juvenile banded at Werribee in April 1979 was retrapped at Phillip Island in March 1980, then retrapped again back at Werribee in May 1981.) Sightings could be reported to Brett, or to any other member of the Wader Study Group (Margaret Cameron or Ira Savage; or John Martindale at the R.A.O.U.)

Any sighting of any bird with coloured leg bands or wing tags, or of any colour dyed bird, could be reported to the Royal Australasian Ornithologists Union, if you don't know the specific person to tell. The R.A.O.U. is at 21 Gladstone St., Moonee Ponds 3039, telephone 03 3701272. They will usually be able to pass the information on for you.

M. Cameron, 4 Connor St., East Geelong, 3219.

PS [illegible]
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30 MAR 1982
OF VICTORIA

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Hon Editor,
Margaret Cameron,
4 Connor Street,
East Geelong, 3219

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EDITORIAL

This issue of the *Geelong naturalist* is almost a birdwatchers' special, and I was going, as usual, to encourage observers of other natural phenomena to share their knowledge, too, using as my text Shakespeare's words:

> Gnats are unnoted wheresoe'er they fly,
> But eagles gaz'd upon with every eye.

Gnats are just as worthy of note, and just as interesting!

But this couplet called to mind other poems about birds and animals, like Tennyson's eagle:

> He clasps the crag with crooked hands;
> Close to the sun in lonely lands,
> Ring'd with the azure world, he stands.
>
> The wrinkled sea beneath him crawls:
> He watches from his mountain walls,
> And like a thunderbolt he falls.

Australian poets, too, have vividly described our birds, animal and plants – Roland Robinson, for example, writes of Deep Well near the Ooraminna Range in the Northern Territory,

> where the spirit trees
> writhe in cool white limbs and budgerigar
> green hair along the watercourse carved out
> in deep red earth, a red dry course that goes
> past the deep well.

Judith Wright has a whole book of poems about birds, like the Currawong "bold, cruel and melodious bird" and "the wild black cockatoos, tossed on the crest of their high trees, crying the world's unrest."

How well the cascading rhythm of Kendall's *Bellbirds* suggests the sounds in a ferny valley with bell miners overhead! How well Shelley describes the Skylark, which "singing still dost soar, and soaring ever singest."

I don't want to encourage wader watchers (or even caterpillar counters) to submit their studies in rhyme – unless they're in the same class as Tennyson, Shelley and Shakespeare! But poetry conveys so well the excitement and enjoyment of the wonders and beauties of nature.

Margaret Cameron

30 MAR 1982
OF VICTORIA

Gone Forever?

7 Bird Species which no longer nest near Geelong

Trevor Pescott

Emu *(Dromaius novaehollandiae)*

The list of birds recorded for the Geelong region includes about 380 species – amongst these are many that are resident, others migratory or nomadic, and a few that are accidental visitors far beyond their usual range.

Populations and status of the species vary as the environment changes, but surprisingly few birds that were once resident breeding species have disappeared.

The following notes refer to seven species which formerly nested locally, but no longer do so; there may be others – for example the Ground Parrot *(Pezoporus wallicus)* – but absence of accurate data on their early status makes it difficult to assess the change.

I have not incuded those that were once common but now are very rare – the Bush Thick-knee *(Burhinus magnirostris)*, Hooded Robin *(Melanodryas cucullata)* and Southern Whiteface *(Aphelocephala leucopsis)*, are three that fit this category.

Nor have I added those that have nested here on rare occasions only – such as the Budgerigah *(Melopsittacus undulatus)* and White-backed Swallow *(Cheramoeca leucosternum)*.

(The gain in species has been more impressive, and it may be worthwhile at a later time to assess the Australian native birds that have established here as breeding species within the last 100 years or so.)

The first bird to disappear from the region after European settlement was the Emu *(Dromaius novaehollandiae);* it was recorded near the You Yangs by Matthew Flinders when he climbed Station (now Flinders) Peak on 1 May 1802.

In the *Geelong Naturalist* (Second Series, Vol. 1 No. 2, June 1904) there was a report: "In 1838 Messrs. G. Russell, H. Anderson and Yuille rode from Shelford to Winter's Flat. . . . . we found the only Emu's nest that I ever saw in the colony; it contained 19 eggs. We also came upon a brood of young Emus. . . . "

Belcher does not record the species, understandably because the Emu had probably gone from the district before he or his contemporaries were born.

John Dixon, when Warden at the You Yangs Forest Park, negotiated the acquisition of six Emu chicks in 1969; they were raised to be freeliving and quite wide-ranging around the You Yangs by 1971, but two years later, only one remained — the other five had been shot. The last one vanished in 1973.

In 1978, two juveniles were released onto the M.M.B.W. farm at Avalon, but no doubt they too were killed.

Personally, and in retrospect, I feel that it was an undesirable move to attempt re-introduction of Emus to the district because of the conflicts that can arise between the birds and farmers, motorists and picnickers.

Emu egg-shell fragments have been found in Aboriginal middens near Collendina, but whether this indicates local nesting or the transport of the eggs as food from elsewhere is difficult to determine.

Once resident as a breeding species in the Western District, the Magpie Goose *(Anseranas semipalmata)* suffered from swamp-drainage, shooting and poisoning; marshes near Mortlake that supported large (for southern Australia) colonies are now dry.

Belcher (1914) recorded the species and made the following note — "Mr. F.R. Smith, of Noorat, tells me that there were in the early days enormous flocks around Terang and Mortlake, on the marshes, but that they were shot out and have been extinct for the past fifteen years."

He added that "These geese do not breed south of Riverina", but I believe that the birds did nest in the Mortlake area and in other places in Western Victoria.

The Magpie Goose is one species which is being successfully bred on the lake and in enclosures at Serendip, and a feral colony of 60-70 birds is established there. Recent, random sightings in the vicinity of Lara would certainly be of Serendip birds.

Magpie Goose *(Anseranas semipalmata)* with neck band from Serendip.

There is a nesting record of the Malleefowl *(Leipoa ocellata)* for the Brisbane Ranges in Campbell (1900) – "the furtherest point south touched by the Lipoa is, or rather was (for I fear they have been driven out of the locality or destroyed by foxes), the Brisbane Ranges between Bacchus Marsh and the You Yangs, Victoria. At all events, the birds were there during the season 1887, Mr. A. Cameron, a station employe, having seen a nest, apparently just ready for eggs. He also heard of a person who found another nest containing eggs."

Ralph Kenyon (pers. comm.) made the following note – "As a small boy (7 years old I think) I went to a spot in the Brisbane Ranges with the school (St. Mary's C.B.C.) and was shown two circular patches of whitish stones said to be the remains of Mallee Fowl mounds. Members of what I thought was the Geelong Naturalists Club did the escort work. This was 38 years ago (1924)."

(There is a further reference to the Malleefowl in the Brisbane Ranges by O'Donohue and St. John, *Victorian Naturalist,* Vol. 26, p. 157, 1909).

I will include the Plains-wanderer *(Pedionomus torquatus)* in this short list of vanished birds, although it will continue to arrive in small numbers when conditions in its preferred areas became adverse.

No doubt it used to nest locally, and according to Belcher the Plains-wanderer is "pre-eminently an inhabitant of the great plain stretching northwards from Lara."

"In the Quail seasons of 1911 and 1912 it was very often noted chiefly about Lara . . . . . . I imagine this bird will be found to breed regularly in the country about Marathon."

In a letter from James K. Russell of Barunah Plains (pers. comm. 19.11.61) he made the comment – "Another bird I have not seen for some years which used to be fairly common was the Plains Wanderer . . . . . . I also had these as pets for some time."

In November 1976, a juvenile was found by Bill McWilliam at Inverleigh.

Cliff Tingate saw a bird caught in a stubble paddock at Buckley in March 1939.

Morrie Jacobs had them in his Drumcondra aviary – collected by George Moore who lived at the Connewarre Lakes, a one-time poacher who eventually shot himself – formerly a conservationist who was "converted".

The Australian Bustard *(Ardeotis australis)* was described by Belcher (1914) as "In former years abundant on the great plain which stretches from Fyansford westward to the South Australian border, the splendid Bustard . . . is now practically extinct in the country about Geelong."

But a few lingered on, and they continued to produce small numbers of young up to the 1920's on the larger Western District properties, notably

Australian Bustard *(Ardeotis australis)*

Barunah Plains and Turkeith; on the latter property one nest was found in November 1931 and another in March 1951 (Don White, pers. comm.).

P.J. Wood writing in the B.O.C. *Monthly Notes* (November 1949) was unaware of this, and he reported—"The last Bustard observed was near Lara, just outside Avalon Station, just forty-five years ago, and about two years before that a pair were seen on Burnside Station on the Inverleigh Road."

W.R. Wheeler *(Bird Observer,* October 1954) noted "reports of the Bustard in the Ballarat and Rokewood districts from February to May 1954".

At Serendip, Lara, Australian Bustards have been one of the most important species to be captive-bred; the first successes came in 1973, but even by 1980, the number of young raised has been quite small. Hopefully in the next few years, the success rate will rise measurably.

The Grey-crowned Babbler *(Pomatostomus temporalis)* is the only passerine that was formerly widespread in the Geelong district and is now extinct here.

In the *Geelong Naturalist* (Second Series, Vol. III No. 1 October 1906 No. 33) Hugh H. Riordan wrote in bird-notes made at a camp "at the Anakies, near Lethbridge"—"The frail network of twigs that serves the Bronze-wing for a nest, was built on the top of a Babbler's old and somewhat broken-down home." The Babbler was included in the list of birds seen during the camp.

Belcher (1914): "But it is not nearly so common as once it was: there are a pair or two in an acacia-hedged paddock, on the Barwon Heads Road, about eight miles out; a small flock near Mount Duneed; odd birds on the back road to Ocean Grove; and a fair number at the foot of the You Yangs, at Gnarwarre and towards Paraparap. That is all. Once they were spread throughout the district."

The Grey-crowned Babbler, once common and widespread around Geelong and west across the Otway foothills south of Colac (M. Hodges pers. comm.) had already begun to decline.

John Hunt (pers. comm.) noted that the species was common in the acacia hedges and sheoaks around Paraparap until the 1930's, then they suddenly disappeared.

At the You Yangs a similar decline may have begun by the early 1940's, although the note in the B.O.C. *Monthly Notes* (December 1943) by W. Heathcote inferred otherwise: "The party of Grey-crowned Babblers at the dam (on Wooloomanata) are on the increase and are now in two groups."

I would suggest that the division of the colony indicated not an increase but a structural or social breakdown; the last recorded nest, built typically at the end of a long slender branch of a River Red Gum, was in 1955, and on 13 August 1960, I saw three birds at the Wooloomanata homestead, my last record for the species at the You Yangs.

In the other local stronghold, the Bellarine Peninsula, their fate followed similar trend; in 1959 Jack Wheeler (pers. comm.) had two colonies under observation – one at Wallington between the hall and Lake Connewarre, the other along the road west of what is now the Ocean Grove Nature Reserve.

By 1963 or 1964, they had vanished.

Again it is Campbell (1900) who refers to another species that occurred within the Geelong region – the Bell Miner *(Manorina melanophrys).* He wrote (p. 417): "In the early days of the State of Victoria, Bell Birds used to exist in the tea-tree (Melaleuca) tracts in the neighbourhood of Mordialloc and in the timber along the course of the Werribee River and on the Yarra above Hawthorn. The birds were never destroyed, yet they have mysteriously disappeared."

The Werribee River reference is, of course, the one of primary interest to us, and I have been told that the time was about 1840 to 1844 (J. McKean, pers. comm.).

Belcher, C.F. (1914) *The birds of the district of Geelong, Australia.* Geelong.
Campbell, A.J. (1900) *Nests and Eggs of Australian birds.* Sheffield, the Author.

T. W. Pescott 4 Victoria Tce., Belmont, 3216.

Grey-crowned Babbler *(Pomastomus termporalis)*

Long-toed Stint caught at Werribee

Margaret Cameron

On 22nd October 1980 a Long-toed Stint (*Calidris subminuta)* was caught in a mistnet by the Victorian Wader Study Group, near the Little River on the M.M.B.W. Farm, Werribee, during wader banding.

The Long-toed Stint is considered rather rare in Australia, although they are probably more numerous than records suggest. Pizzey (1980) says it is "regular but scarce". It breeds in Siberia, and winters in south and south-east Asia west to India and east to the Sunda Islands, the Celebes, and eastern New Guinea, as well as Australia. A few are recorded every year in Victoria. Pizzey's description is is as follows:

> 145 – 165mm. Tiny; like a round-headed Red-necked Stint with greenish-yellow legs and a more distinct breastband. Non-breeding: mouse-brown above, slightly mottled darker, faint white eyebrow; whiter below with broad grey or brown zone across breast. . . . In flight, no obvious wingbar, darker rump edged white, tail dark, without conspicuous white margins.

Fred Smith, in the text on the Long-toed Stint in the *Reader's Digest Complete Book of Australian Birds,* remarks that it is more likely to be mistaken for a small Sharp-tailed Sandpiper *(Calidris acuminata)* or Pectoral Sandpiper *(Calidris melanotos)* than a Red-necked Stint *(Calidris ruficollis)*.

The bird caught at Werribee was identified as a juvenile, by the whitish edges to the scapulars, and other characters given in Prater, Marchant and Vuorinen (1977). Its winglength was 95mm and its bill length was 19mm. It weighed 29 grams. The average weight of a Red-necked Stint is 29½ grams, the range being 27 – 31 grams.

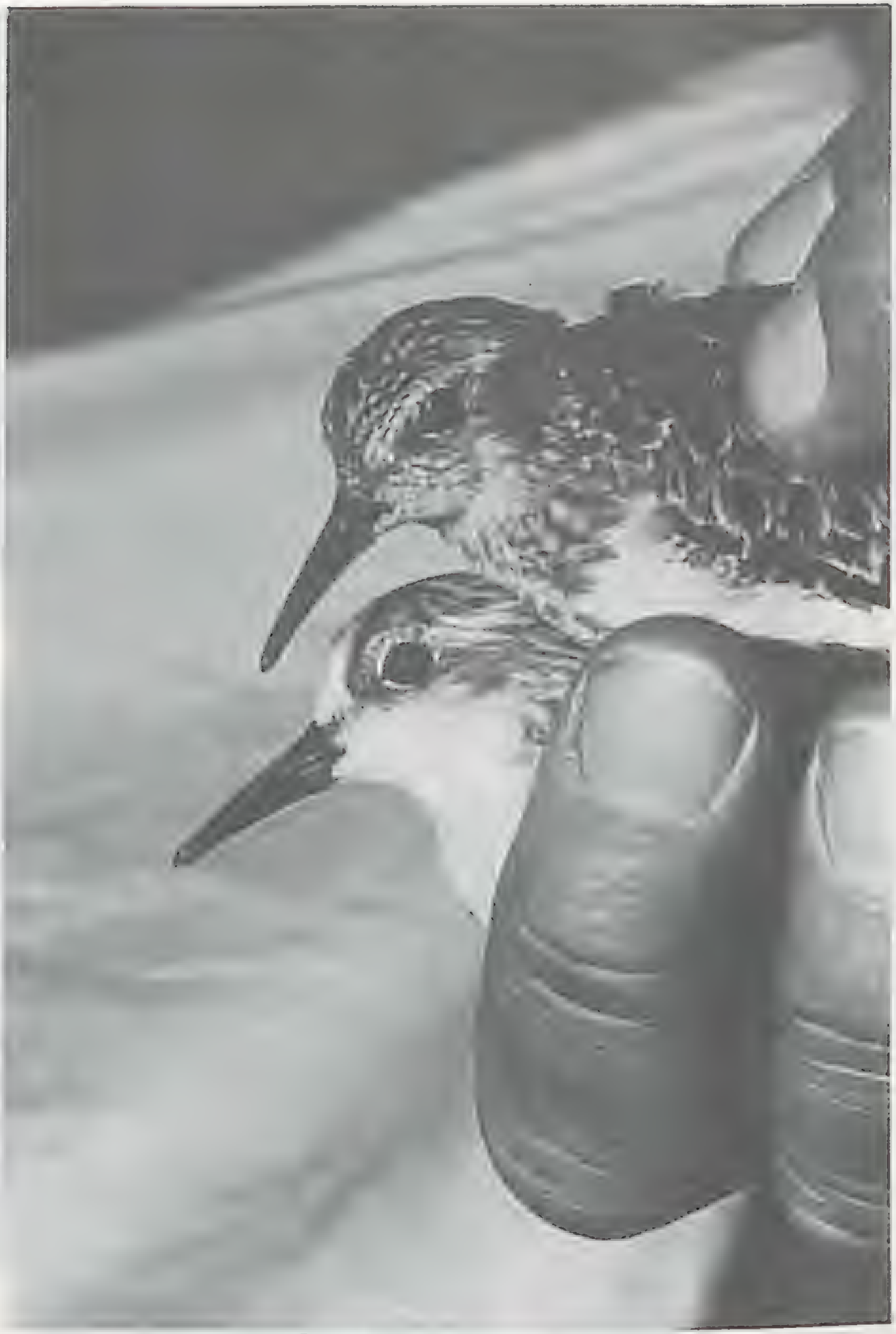
A Red-Necked Stint was caught at the same time, and in the hand the difference in size of the head and neck was striking; as of course were the long toes!

Pizzey, G. (1980) *A field guide to the birds of Australia.* Sydney, Collins.

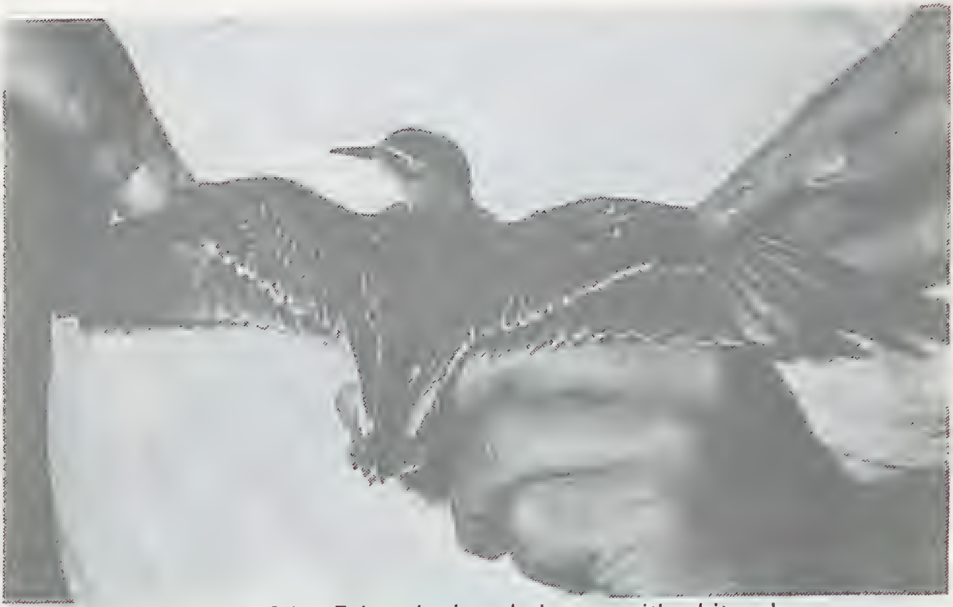
Prater, A.J. Marchant, J.H., Vuorinen, J. (1977) *Guide to the identification and ageing of holarctic waders.* (BTO Guide 17) Tring, B.T.O.

Reader's Digest Complete Book of Australian Birds (1976) Sydney.

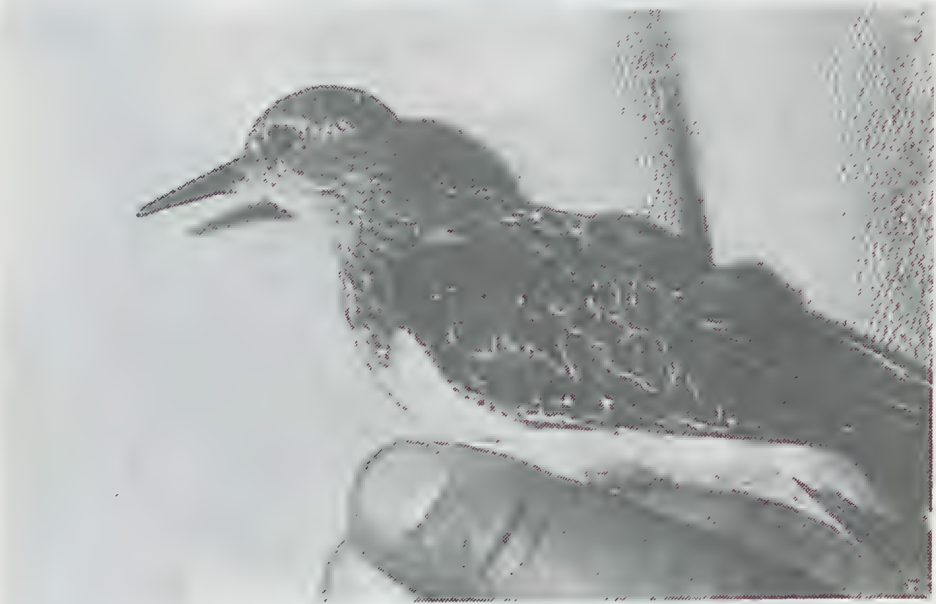
M.A. Cameron 4 Connor St., East Geelong, 3219



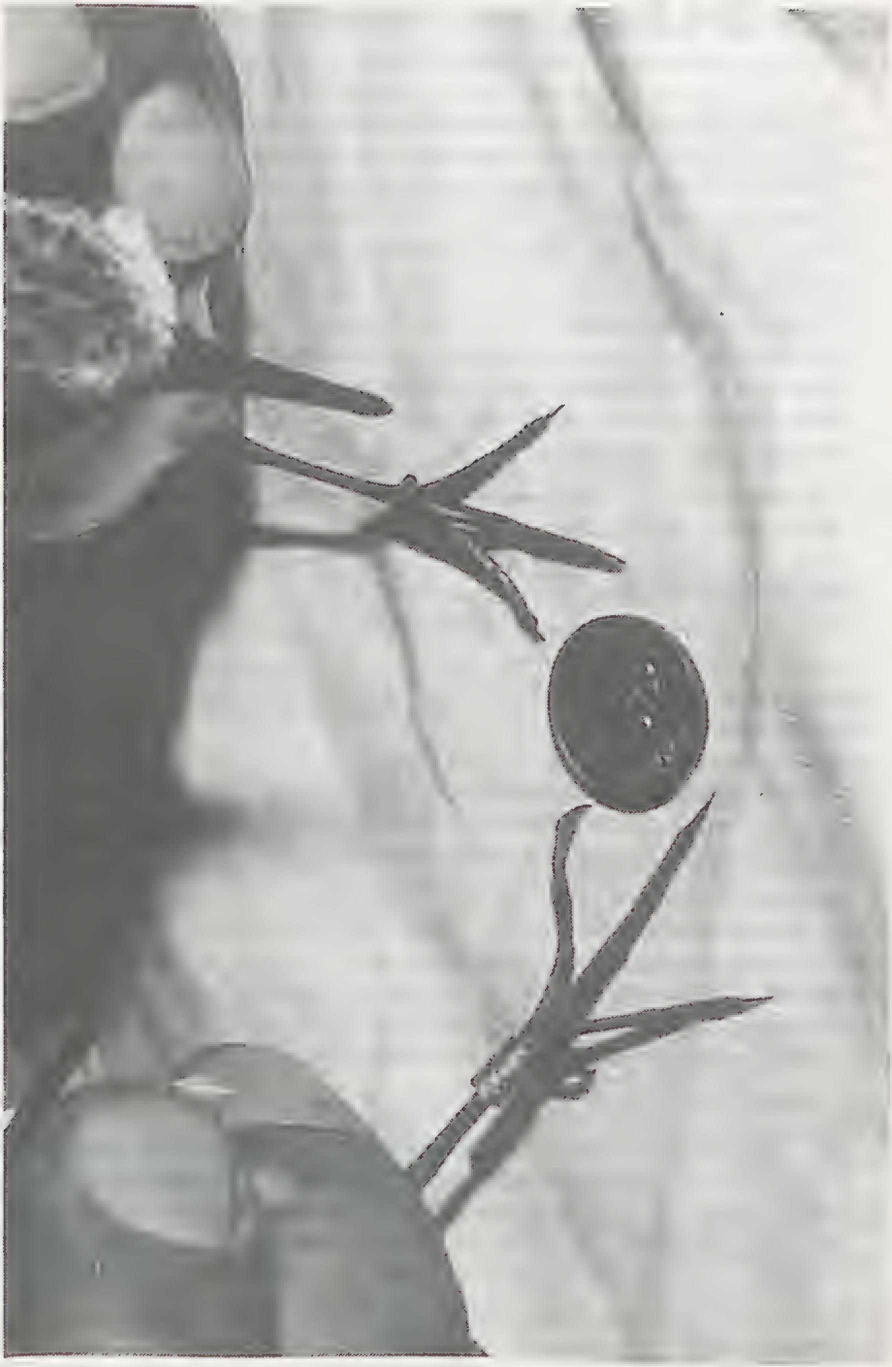
Long-toed Stint above, Red-necked Stint below



Long-toed Stint. Faint wingbar, dark rump with white edges, dark tail without white margins.



Long-toed Stint, showing breast band



Lont-toed Stint left, Red-necked Stint right. The coin is a one cent piece.

Bird Notes from Suburban Newtown

Theo Trickett

1. On 25th March 1981, a day of 33°, I was painting the white woodwork in the laundry, and tired and hot and grumpy, had to go down the garden to change the hose. And there, playing in and out of the water, collecting and eating some tiny insects from the tomato bush and rhubarb, was a little gem of an immature female Spotted Pardalote *(Pardalotus punctatus)*. She climbed up the rhubarb stalk, her legs long and spreadeagled on the upright stalk, to its umbrella leaf – then all the way down again, catching and eating insects invisible to me. I was about 2 feet away! – made a small movement, and she flew off in a flash to the top of a nearby eucalypt. It's not easy to describe a magic moment, but that was one!

2. For some years I have been noting the arrival and departure dates of the Reed-warblers *(Acrocephalus stentoreus)* at the Barwon at Fyans Park. The welcome song is heard again about the 9th to 11th of each September, and not heard again after early February. But this year on 10th February 1981 there were fruity, rich calls around the back door, and the two little owners were – Reed-warblers! The call was consistently only part of the full Reed-warbler song, and therefore rather confusing to identify.

   Oblivious of observers inches away behind the wire door, they were feeding very well on lacy bugs and their instars right on the back door mat, and on the jasmine in front of the back door. They stayed around the back door and jasmine until 1st March 1981, although they did not call again from the river after 1st February.

   After catching a lacy bug or instar they made quite a rattling sound with their beaks. They were comical to watch on the bird-baths, slithering down the sides from the rim, and wading and flapping across the water until they reached the safety of the nearest edge.

   After they left, the resident New Holland Honeyeaters took over the control of the lacy bugs.

3. On 17th and 18th December 1980 we were enchanted to have a male Rufous Whistler *(Pachycephala rufiventris)* about the silver birch catkins and around the lower back garden with his delightful roundelays and E-wong calls. On 22nd December he was sitting on an outer branchlet of the oleanders, surveying us. It was a great pleasure to hear his ringing song around the home right through until 2nd January 1981.

4. The Rainbow Lorikeets *(Trichoglossus haematodus)* still feed frequently during each day at the nectar bottle, but they have developed rather bad habits of coming as close to the kitchen window as possible when the nectar has run out, and producing some very raucous noises – which quickly subside to contented murmurs when the bottle is replenished and they are once again imbibing.

Theo Trickett, 37 Craigie Rd., Newtown, 3220.

House Sparrows Nesting in Fairy Martin Colony

Trevor Lumb

On December 28th, 1980, while on a visit to Fells Gully, Victoria, I found and was observing an active nesting colony of Fairy Martins *(Cecropis ariel)*, when I was surprised to see a male House Sparrow *(Passer domesticus)*, alight on a Martin's nest, carrying something in its bill, and proceed to exchange places in the nest with a female sparrow.

This utilisation of Fairy Martins' nests must be nothing new as I noticed it referred to in *Nests & Eggs of Australian Birds* by A.J. Campbell, first printed in 1900, and again in *A Field Guide to the Birds of Australia* by G. Pizzey (1980).

As it was only a small colony of six nests, with at least three of the remaining five nests being used by their rightful owners, it was interesting that the Martins were coming going and freely, apparently unconcerned by their strange neighbours.

A closer inspection of the site, on the overhang of a creek bank, revealed that the nest concerned had its mud spout broken back and enlarged sufficiently to allow entry of the larger-bodied sparrows.

The question thereby raised is whether the spout had been broken back naturally, or had the sparrows deliberately removed it, and perhaps even evicted its builder at the same time?

T. H. Lumb, 12 Ashley Grove, Mt. Helen, 3350.

Behaviour of Mistletoe Bird

D. F. King

On Swan Island in August, 1980, I observed a male Mistletoe-bird *(Dicaeum hirundinaceum)* perched on a branch of a tree with a mistletoe seed in its beak. It spent some time rolling this seed around in its beak and made no attempt at swallowing it. Eventually, the bird placed the seed on a twig growing vertically from the branch on which it was perched. The bird immediately flew off leaving the mistletoe seed adhered to the twig. The interesting question this raises is, does this constitute a method of temporarily storing food or is it an innate behavioural pattern that has developed leading to the propagation of the mistletoe plant?

D. F. King, 8 Traum St., Portarlington, 3223.

Unusual Grey Shrike-Thrush behaviour

Craig Morley

On the 23rd November 1979 at Angahook Forest Park, at approximately 4.00 p.m. (Eastern Daylight Saving Time) I observed at least 3 of a group of 9 Grey Shrike-Thrushes *(Colluricincla harmonica)* indulging in behaviour which was distinctly Babbler-like.

At least 2 immatures (with streaked upper breasts) and one adult were observed chasing each other from tree to tree, shaking their wings. None of them were more than 1½ metres from the ground, in undergrowth and low branches of eucalypt saplings. They were uttering a high-pitched version of the normal Grey Shrike-Thrush call ("Pipp-pipp-hooee") as well as animated Babbler-like cat-calls and whistles. Typical of these noises was a "ya-hoo", remarkably similar to the characteristic call of the Grey-crowned Babbler.

Craig Morley, 22 Fairmont Rd., Newtown, 3220.

Excursion to Werribee Spit and Lake Borrie, 17 February, 1980

Leader: Geoff Gayner

Just over 20 carloads of people turned up at 10.30 a.m., on a perfect day—warm to hot, with a slight southerly breeze—for a walk from Kirk Point, along the Northern Spit. After lunch at about 1 p.m., the Lake Borrie area was visited. One tiger snake was seen.

BIRD LIST

(Beach Road, Avalon Airfield, Kirk Point, Lake Borrie)

Hoary-headed Grebe	*Poliocephalus poliocephalus*	100+
Australasian Grebe	*Tachybaptus novaehollandiae*	200
Australian Pelican	*Pelecanus conspicillatus*	Common
Great Cormorant	*Phalacrocorax carbo*	12
Pied Cormorant	*Phalacrocorax varius*	
Little Black Cormorant	*Phalacrocorax sulcirostris*	
Little Pied Cormorant	*Phalacrocorax melanoleucos*	
White-faced Heron	*Ardea novaehollandiae*	Common
Sacred Ibis	*Threskiornis aethiopica*	Common
Straw-necked Ibis	*Threskiornis spinicollis*	Common
Black Swan	*Cygnus atratus*	Very common, 1000+ Remains of dead Swans also found
Australian Shelduck	*Tadorna tadornoides*	2000+
Black Duck	*Anas superciliosa*	100
Grey Teal	*Anas gibberifrons*	1000
Chestnut Teal	*Anas castanea*	1000
Pink-eared Duck	*Malacorhynchus membranaceus*	1000
Hardhead	*Aythya australis*	1000
Whistling Kite	*Haliastur sphenurus*	1
Marsh Harrier	*Circus aeruginosus*	1
Brown Falcon	*Falco berigora*	2
Australian Kestrel	*Falco cenchroides*	1
Purple Swamphen	*Porphyrio porphyrio*	Wings of dead Swamphen found
Eurasian Coot	*Fulica atra*	Very common
Pied Oystercatcher	*Haematopus longirostris*	8
Masked Lapwing	*Vanellus miles*	2

Banded Lapwing	*Vanellus tricolor*	2
Lesser Golden Plover	*Pluvialis dominica*	2
Red-capped Plover	*Charadrius ruficapillus*	20
Black-winged Stilt	*Himantopus himantopus*	7
Banded Stilt	*Cladorhynchus leucocephalus*	100
Red-necked Avocet	*Recurvirostra novaehollandiae*	200
Eastern Curlew	*Numenius madagascariensis*	2
Greenshank	*Tringa nebularia*	2
Red Knot	*Calidris canutus*	30
Sharp-tailed Sandpiper	*Calidris acuminata*	10
Red-necked Stint	*Calidris ruficollis*	1000, and one beach-washed
Curlew Sandpiper	*Calidris ferruginea*	500
Silver Gull	*Larus novaehollandiae*	Very common
Pacific Gull	*Larus pacificus*	2
Whiskered Tern	*Chlidonias hybrida*	500
Crested Tern	*Sterna bergii*	20
Skylark	*Alauda arvensis*	Common. One dead on track to Lake Borrie
Welcome Swallow	*Hirundo neoxena*	Common
Fairy Martin	*Cecropis ariel*	Fairly common
Richard's Pipit	*Anthus novaeseelandiae*	Common
Grey Fantail	*Rhipidura fuliginosa*	1
Willie Wagtail	*Rhipidura leucophrys*	Common
Little Grassbird	*Megalurus gramineus*	Fairly common
Golden-headed Cisticola	*Cisticola exilis*	Odd birds
Superb Fairy-wren	*Malurus cyaneus*	Common
Calamanthus	*Sericornis fuliginosus*	1
Yellow-rumped Thornbill	*Acanthiza chrysorrhoa*	Very common
White-fronted Chat	*Epthianura albifrons*	Fairly common
European Goldfinch	*Carduelis carduelis*	Common
House Sparrow	*Passer domesticus*	Common
Common Starling	*Sturnus vulgarus*	Common
Australian Magpie-lark	*Grallina cyanoleuca*	Common
Australian Magpie	*Gymnorhina tibicen*	Common
Little Raven	*Corvus mellori*	Common

Geoff K. Gayner, Lot 80, Jenkins Drive, Lara, 3212.

Excursion to Batesford Quarry and Belcher's Bush, 8 June 1980

Leaders: Stan Rowe (Quarry); Lawrie Conole (Belcher's Bush).

After assembling at the Post Office, 59 members in some 20 cars headed out to the A.P.C.L. Quarry at Batesford. Here we were met by Mr. Max Parker, the Manager, who kindly stayed with us as long as he could; he was at all times the centre of an interested group learning about the Quarry, its problems and its plans. We first visited the floor of the quarry, and examined the Batesford limestone in situ, being most interested also in a large block of granite exposed in the northeast face. Much searching for fossils was done, and many regular sea urchin plates and spines and calcareous sponges were found, also some terebratulid brachiopods ("lamp shells") and a number of sharks' teeth (mostly of *Odontaspis contortidens).*

After this, we climbed out of the quarry proper onto one of the overburden benches and examined the Fyansford Clay and overlaying Newer Volcanic basalt. Among the fossils in the clay, one which aroused much interest (and where the bird-watchers' binoculars proved useful) was a large cowrie *(Cypraea)* exposed in the face – unfortunately far out of reach. Good examples of pillow lavas and columnar blocks were seen in the basalt and fine samples of aragonite (calcium carbonate) with its acicular (needle-like) crystals were collected – unfortunately even better material was impossible to remove.

At this point our A.P.C.L. guide left us – and the subsequent guiding deteriorated, resulting in some interesting motor-manoeuvring! We managed to visit some of the dumped Fyansford clay overburden, however, and after collecting a range of fossils including corals, bryozoa, tusk shells *(Dentalium)*, bivalves, and a range of gastropods, found our way past the Dog Rocks to Mr Belcher's property "Lilydale". for a welcome lunch, enlivened by gazing at a nearby koala.

After lunch, we had the usual specimen table, followed by a most unusual display by our Japanese visitor, who showed us how he uses rocks with interesting shapes and patterns mounted in carved wooden bases to make fascinating objets d'art. Among the Japanese and local examples he showed could be seen an island, a seal and even "Miss Piggy" – this last a calcareous concretion from Portland.

Bird observing began in earnest after lunch, but a few species had already been recorded at the quarry:

> Australian Kestrel, Black-shouldered Kite, Whistling Kite, European Goldfinch, House Sparrow, Common Starling, White-faced Heron, Cattle Egret, Straw-necked Ibis, Sacred Ibis, and Australian Magpie.

At Lilydale House (Belcher's Bush):

Whistling Kite, Australian Magpie, Grey Shrike-thrush, Superb Fairy-wren, Little Raven, Restless Flycatcher, White-plumed Honeyeater, Eastern Rosella, Gang-gang Cockatoo, Eastern Yellow Robin, Brown Thornbill, Grey Fantail, Welcome Swallow, Red Wattlebird, Flame Robin, Golden Whistler, Varied Sittella, White-browed Scrubwren, White-throated Treecreeper, White-naped Honeyeater, Yellow-faced Honeyeater, New Holland Honeyeater, Spotted Pardalote, Blackbird, Red-browed Firetail, Willie Wagtail, Laughing Kookaburra, Purple-crowned Lorikeet, Black-faced Cuckoo-Shrike.

Two Whistling Kite nests were found near our parking area; they were probably being used as feeding platforms only. Casts (pellets) and skeletal remains of rabbits and Ringtail Possums were found beneath the nests. Several casts were taken, to be sent to the Museum for analysis.

Six koalas were seen (including one dead one), numerous wallaby footprints were noted, and the diggings of the Spiny Anteater were found. Conical diggings resembling those of bandicoots, and unlike rabbits', were noted in heathy areas.

S.E. Rowe, School of Sciences, Deakin University, 3217
L. Conole, 85 Clarence St., Geelong West, 3218.

Editor's note: The long delay in publication of this report is because the analysis of the Whistling Kite casts had not been received. It still has not come and will be published as a separate note if/when it does.

Western District Volcanic Lakes Excursion
15 March, 1981
Leader: Geoff Mathison

On a mild autumn day, 30 members and visitors made the trip from Winchelsea as far west as Lake Bullen Merri near Camperdown, by way of Floating Islands and Lake Purrumbete, and back through the Lake Corangamite district, Red Rock and Lake Murdeduke. From a high point above Lake Bullen Merri, we overlooked some of the plains, lakes, and cones, and, unexpectedly, had a fine view of the Grampians.

The leader provided a summary of the geological evolution of the Lake Corangamite area, as follows:

(a) The pre-basaltic Leigh River joined the Barwon and flowed south of the Barrabool Hills to the sea via the Lake Modewarre Gap and Wurdi Boluc Gap.
(b) Basalt infilled the major river valleys. The Leigh and the Barwon established courses parallel to the infilled valleys.
(c) A late lava flow blocked the river courses in the Modewarre Gap area.
(d) An area between Camperdown, Winchelsea, Cressy and Inverleigh covering some 700 square miles was inundated by water from the defeated rivers.
(e) Overflow ultimately occurred east of Inverleigh across the Leigh-Moorabool divide, leading to drainage of the huge lake.
(f) As the water level fell, lunettes – crescent-shaped dunes of wind-blown material – were formed above the high water mark and deposits emerged as terraces.
(g) Barriers emerged between the Barwon and the west lake area and the river eventually cut through the basalt at Winchelsea and developed its present course, joining the Leigh River at Inverleigh.
(h) The west lake area became an evaporation basin after the main water supply had ceased.
(i) Lunette suites were formed by the prevailing winds as the water level fell and isolated lakes remained.

The present area of Lake Corangamite is about 100 square miles and it is the largest lake in Victoria.

Interesting observations during the day included a number of birds of prey: an Australian Hobby (Little Falcon) at Winchelsea, a Brown Goshawk at Lake Purrumbete, an Australian (Nankeen) Kestrel before Lake Bullen Merri, Little Eagles before Lake Bullen Merri and at Red Rock, 4 Whistling Kites during the day, and Black-shouldered Kites and Brown Falcons throughout the excursion. A Musk Duck was displaying at Lake Purrumbete, and a Pink-eared Duck was seen at Lake Murdeduke.

There were surprisingly few birds at Lake Bullen Merri itself.

Some Coxiella shells were gathered from the shore of Lake Corangamite near North Cundare.

BIRD LIST

(by Joyce Ward and Geoff Mathison)

Winchelsea to Floating Islands:

White-faced Heron, Australian Magpie, Australian Hobby, Willie Wagtail, Straw-necked Ibis, Sacred Ibis, Cattle Egret, Masked Lapwing (Spurwing Plover), Yellow-billed Spoonbill, Common (Indian) Mynah, Australian Magpie-lark, Galah, Common Starling, White-throated Needletail (Spine-tail Swift – large flocks of hundreds of birds), Gang-gang Cockatoos, Sulphur-Crested Cockatoos, Black-shouldered Kite – seen throughout the excursion, House Sparrow, Australian Raven.

Floating Islands:

Black Swan, Silver Gull, Grey Fantail, Eastern Rosella, Superb Blue Wren, Eurasian Coot, Pacific Black Duck, White-naped Honeyeater, White-plumed Honeyeater, New Holland Honeyeater, Yellow-faced Honeyeater, Brown-headed Honeyeater, White-throated Treecreeper, Silvereye.

Lake Purrumbete:

Musk Duck (displaying), Hardhead (White-eyed Duck) – one female, Australian Shelduck (Mountain Duck) – seen often throughout the day, Little Black Cormorant, Little Pied Cormorant, Clamorous Reed-Warbler, Brown Goshawk, Whistling Kite – 4 seen during the day, Purple Swamphen, families of Black Swan, Australian Pelican, Hoary-headed Grebe, Welcome Swallow, Brown Thornbill.

To Lake Bullen Merri:

Blackbird, Laughing Kookaburra, Brown Falcon (also several times later during the excursion), Australian Kestrel, Little Eagle.

Lake Corangamite area:

Black-faced Cuckoo-shrike – large flock, European Goldfinch, White-fronted Chat, Great (White) Egret, Fairy Martin, Little Eagle at Red Rock, Striated Thornbill, Crimson Rosella, Little Raven, Noisy Miner, Chestnut Teal, Yellow-rumped Thornbill, Richard's Pipit.

Lake Murdeduke:

Pink-eared Duck – one, Banded Stilt – one, Lesser Golden Plover – 14, Red-necked Stint, Red-capped Plover.

Barwon River Walk, 31 October, 1981

Val Dedman

The 1981 Barwon River Walk was in the region of Pollocksford Bridge. This is one of the few places around Geelong where there is public access to the river, as most of the private land along the Barwon was settled very early and titles go right to the river's edge. More foresight was shown when the land near the Pollocksford bridge was originally sold in the 1870s and 1880s, so that today there is a small fringe of streamside reserve about fifty metres wide adjoining private property, and two slightly larger adjoining public reserves – a picnic area managed by the Shire of Bannockburn, and a former quarry reserve, still under the control of the Department of Crown Lands and Survey, which has been "reserved for the Conservation of Area of Natural Interest" following recommendations from the Land Conservation Council.

It was the continuation of this Reserve as a Quarry Reserve to which the Club objected in the Proposed Recommendations of the Land Conservation Council. Quarrying had never been extensive and production of stone had ceased by this time. Earlier, in 1973, The Club had raised an objection to the application for an extractive industry permit, when sand and gravel was being taken from land adjacent to the river.

Apart from these small reserves, totalling not much more than ten hectares, there is no Crown Land fronting the river from Fyansford upstream to beyond Inverleigh. The picnic area, with fireplaces and rubbish bin is very popular for barbecues and as a fishing spot. The former quarry reserve is less accessible and more of the original vegetation has been preserved.

The Barwon here flows in a great loop around a hill, and is very attractive, bordered for much of its course with old River Red Gums. The bed of the river is of basalt, evidence of a stream flow along the ancestral Barwon some two million years ago, probably from the Native Hut Creek area. This basalt is dense and in some places the flow is many metres thick and much sought after as bluestone for road works. It is the same flow which has been so extensively quarried at Fyansford and formerly at Newtown. Overlying this is a sheet flow about one million years old, from Mount Anakie, which peters out here as it meets the northern edge of the Barrabool Hills which were rising about the same time and are composed of sandstone formed in freshwater lakes. So from Pollocksford downstream for some kilometres the surface rock on the north side is quite different from that to the south, with the river as the boundary between the two.

Eighteen members took part in the excursion on a fine but cool Saturday afternoon. We first walked upstream from the bridge to the old quarry area. The basalt face, some 15 metres high, which had been worked, was examined, and we thought we could distinguish the two different flows, the sheet flow being less dense, more crumbly and about two metres thick.

The plants along this stretch of the river were most interesting. There was a pleasing regeneration of small, metre high River Red Gums, the aftermath of the last big flood in December 1978. These, and the other newer Red Gums, need to be protected, as some of the grand old trees are reaching the end of their life span, or are in danger of falling into the river through erosion around their roots during floods. We saw with concern that some of the trees we would have thought "safe" were badly defioliated. There were many writhing balls of sawfly larvae on them, gum leaf skeletoniser caterpillars were plentiful, and there was evidence of lerp and leafhoppers.

Larger shrubs and small trees along the river included Late Black Wattle just coming into flower, River Bottle Brush in bud, Prickly Tea Tree, also beginning to flower, and Sweet Bursaria. A single Cherry Ballart with fruit appearing was a notable find. I know of no other specimen along several kilometres of river. Was it once more common in the streamside vegetation? Tree Violets were found both beside the river and on the hillside. Their creamy bell-shaped violet-scented flowers were finished and had been replaced by pale berries, later to turn purple. Spiny-headed Mat Rush and Tangled Lignum also grew beside the river, and a solitary specimen of Maiden Hair Fern was found under one of the many tumbled rocks. Bluebells were flowering among the grass. The predominant grass was Kangaroo Grass, which once covered vast areas of the western Victorian plains, but which has died out as the native grasslands were ploughed and sown to pasture or crop. Unfortunately there were a number of introduced weeds, some of them noxious. The spread of furze could become a problem. Tree Tobacco, Spurge and Hemp Bush were also found, and various unidentified garden plants, leftovers from illegal rubbish dumping around the quarry.

Birds were not plentiful; only 22 species were recorded. Both Sparrows and Starlings were nesting in hollows in the Red Gums, taking over good nesting sites that native resident species, such as Red-rumped Parrots or Galahs, might have wanted. We saw a small flock of Red-rumped parrots, both flying and feeding, as well as Galahs, which are becoming more common. Welcome Swallows were common, dipping into the water in search of insects, and Superb Fairy Wrens kept mainly to the cover of Lignum and other dense bushes. Best bird of the day was a Sacred Kingfisher, newly returned to the area. The Reed Warblers had not yet returned to their usual haunt in the bank of reeds near the weir over the river just above the bridge. It was too early in the day to observe the flocks of Sulphur-crested Cockatoos and Long-billed Corellas which come in noisily of an evening to roost a little further downstream.

We had little chance of seeing a platypus, although they are known to inhabit the river here, as a party of canoeists was using the river. Nor did we see a koala asleep in the fork of a Red Gum, waiting for evening to continue its migration along the river, as koalas are wont to do in the later months of the year. An interesting find was the shells of freshwater mussels, lying opened and empty, but still hinged together.

All in all we had a most pleasant afternoon's walk. It was a pity we could not go further. We could only look across, from the end of the Quarry Reserve, to an interesting gully where Blackwoods still flourish. It is important, too, that the existing reserves are managed with sensitivity. As a result of this excursion, the Club has written to the Lands Officer asking that the value of the seeding Red Gums be taken into account when management practices are undertaken in the Pollocksford Reserve.

Bird List, Barwon River Walk, 31/10/81

1.30 p.m. – 4.00 p.m.

White-faced Heron flying over river	*Ardea novaehollandiae*
Whistling Kite overhead	*Haliastur sphenurus*
Straw-necked Ibis many, flying high overhead	*Threskiornis spinicollis*
Spotted Turtle-dove	*Streptopelia chinesis*
Galah	*Cacatua roseicapilla*
Eastern Rosella	*Platycercus eximius*
Red-rumped Parrot small flock, flying and feeding	*Psephotus haematonotus*
Welcome Swallow common	*Hirundo neoxena*
Sacred Kingfisher	*Halcyon sancta*
Kookaburra	*Dacelo gigas*
Blackbird	*Turdus merula*
Willy Wagtail	*Rhipidura leucophrys*
Skylark	*Alauda arvensis*
Superb Fairy-wren	*Malurus cyaneus*
White-plumed Honeyeater	*Lichenostomus penicillatus*
Black-faced Cuckoo-shrike	*Coracina novaehollandiae*
Magpie Lark	*Grallina cyanoleuca*

Australian Magpie	*Gymnorhina tibicen*
Little Raven	*Corvus mellori*
House Sparrow nesting in hole in red gum	*Passer domesticus*
Common Starling nesting in red gum	*Sturnus vulgaris*
Goldfinch	*Carduelis carduelis*

22 species

Plant List

This does not claim to be complete. It is merely a listing of some of the plants we found interesting on the walk.

River Red Gum	*Eucalyptus camaldulensis*
Black Wattle	*Acacia mearnsii*
Tree Violet	*Hymenanthera dentata*
Cherry Ballart	*Exocarpos cupressiformis*
Sweet Bursaria	*Bursaria spinosa*
River Bottlebrush	*Callistemon paludosus*
Prickly Tea-tree	*Leptospermum juniperinum*
Spiny-headed Mat-rush	*Lomandra longifolia*
Tangled Lignum	*Muehlenbeckia cunninghamii*
Kangaroo Apple	*Solanum aviculare*
Tree Tobacco	*Nicotiana glauca*
Hemp Bush	*Gynatrix pulchella*
Kangaroo Grass	*Themeda australis*
Maiden Hair Fern	*Adiantum sp.*
Bluebells	*Wahlenbergia sp.*
Large Quaking-grass	*Briza maxima*
Spirge	*Euphorbia sp.*

Mrs. Valda Dedman, 69 North Valley Rd., Highton, 3216.

HOUR COUNT No. 38
STOKERS SIDING, NEW SOUTH WALES

Roy Wheeler

In October 1979 I met at O'Reilly's "Green Mountains" in South-east Queensland, Jan and Alan Atkins of Stokers Siding near Murwillumbah in north-eastern New South Wales. They invited me down to talk to the school children and the people of the district and I accepted in late November. Sitting on their veranda in the afternoon I realized that it would be possible to do an "hour count" there.

A neighbor Mrs. Edna Hall gave me details of the early history of Stokers Siding. She was born Edna Byrnes at the Sunnyside Homestead some 85 years ago and the Sunnyside property included then the land where the school now is as well as some of the town shops, the present store, the butcher's shop and the old bakery. Her father Frederick Arthur Byrnes, his father, and five brothers came from Byrnes Point Ferry on the Richmond river where they ran the ferry. They came to the district in the early 1890's by bullock dray, the trip taking four days. Fom 1891 to 1894 they cut sleepers for the railway that was to be built between Murwillumbah and Lismore.

The only other resident there at the time was Mr. Stoker, after whom the siding was named. He lived in a hut on the hill, and Mrs. Hall recalls her grand-father telling her that it was so lonely that Mr. Stoker and he used to "cooee" to each other in the evening just to hear another voice. The railway gangs on the railway were stationed at the place called Dunbible. After the railway went through, the family built "Sunnyside Homestead" and Stokers Siding came into being. Only a small town, with a few shops, garage, post office and school, it is situated on the Dunbible Creek, a very pretty stream with its River Oaks, Bangalow Palms and Camphor Laurels. Here, seated on the veranda, overlooking the stream gurgling along as it did in those far off days, we did an hour count.

Stokers Siding, New South Wales November 29, 1979.

Fine and cloudy with a south-west breeze. 7.00 a.m. to 8.00 a.m. (E.D.S.T.) Dunbible Creek with Bangalow Palms, River Oaks, Camphor Laurels, Bauhinia, Tobacco Bush and Lantana. 5 observers: Jan and Alan Atkins, Cliff Bohm, Ismay Hoffmann and Roy Wheeler.

Birds in order of sighting: Australian Magpie, 6; Willie Wagtail, 2; Silvereye, 8; Noisy Miner, 12; Fairy Martin, 6; Mistletoe Bird, 2; Lewin's Honeyeater, 4; House Sparrow, 10; Straw-necked Ibis, 1; Varied Triller, 2; Crow, 3; White-faced Heron, 1; Bar-shouldered Dove, 4; Cattle Egret, 6; Golden-headed Cisticola, 1; Little Pied Cormorant, 2; Brush Cuckoo, 2;

Black Duck, 3; Pheasant Coucal, 1; Crested Pigeon, 2; Starling, 1; Red-browned Finch, 4; Koel, 1; Pied Butcherbird, 1; Scaly-breasted Lorikeet, 2; Azure Kingfisher, 1; Figbird, 2; White-throated Honeyeater, 1. Dollar-bird, 1; Magpie Lark, 2 and Restless Flycatcher, 1.

Total 31 species and 98 individuals.

The following year I visited the Atkins again at Stokers and listed 33 on an hour count on October 3, 1980. Additions to the 1979 count were Noisy Friarbird, Brown Honeyeater, Kookaburra, Welcome Swallow, Pied Currawong, Spurwinged Plover, White Ibis, Galah, Superb Fairy Wren, Eastern Rosella, Black-faced Cuckoo-shrike, Spotted Turtle-dove, Rainbow-bird, White headed Pigeon and Spotted Pardalote. These make a total of 46 birds in two counts from the veranda at Atkins house.

My thanks to Jan and Alan Atkins and their two daughters Amanda and Michele for their kind hospitality, and to Mrs Hall for her information.

Roy Wheeler, 19A Upton Rd., Windsor, 3187.

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Special 21st Birthday Issue

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EDITORIAL

This issue of Geelong Naturalist is devoted entirely to the activities that the Club has undertaken in the last eleven years, its purpose being to record as clearly as possible a concise Club history from 1971 to 1982.

In "The First Ten Years", published in 1971 as a supplement to the Geelong Naturalist (Vol 7 No. 4), a summary of the Club's progress from our formation in 1961 until 1971 is recorded, and the present magazine should be seen as a continuation of that booklet.

The majority of the material printed in this magazine has bee written by our Secretary, Valda Dedman, and without the very many hours she has put into documentation, checking and writing, this issue could not have been produced. It has been necessary for her to first read through the minutes of more than 250 General, Committee and Special meetings, extract the relevant information, transfer this onto record cards, then rewrite that into its present form.

It has been a mammoth task, and we are indebted to Val Dedman for her tireless efforts.

Members have every right to be proud of the Geelong Field Naturalists Club – it has made many significant contributions to the study of natural history and to the cause of nature conservation, and it is held in high esteem by its contemporaries and by the general public.

Yet the club is simply a gathering of people with like interests and shared concern, and it is to the credit of all members that the club has functioned so sucessfully and so effectively.

As you read through the pages of this issue of the Geelong Naturalist, this will become apparent, for the diverse activities described have been undertaken by many people over many years, but inevitably with our primary intentions always clearly in view.

The study of nature and its conservation is as challenging, frustrating, rewarding now as ever it has been, and the experiences gained and friendships forged in the pursuit of these interests are as timeless as nature herself.

Trevor Pescott
President

The Geelong Field Naturalist Club: A Brief history from 1971 – 1982

Valda Dedman

The objects of the Club, as stated in the Constitution, are *"to stimulate interest in natural history and to preserve and protect flora and fauna."* The first of these objects is achieved mainly through "in-club" activities – meeting nights and excursions – and the second through the various conservation issues on which the Club has taken a stand or provided information and field data.

General Meetings

Since the Club started in 1961 there have been two main activities each month, the general meeting on the first Tuesday and the excursion on the third Sunday.

The main feature of the general meeting has always been the guest speaker. During the past ten years we have had some outstanding addresses by experts in their field. Who could forget, for instance, Les Harris, from the Dingo Foundation, who spoke in September 1981, accompanied by Kua at the end of a tightly reined leash? Or Charles Anderson demonstrating wolf howling? Dr. Jim Willis spoke to us on more than one occasion with wit and enthusiasm, and his talk on fungi was particularly memorable. Bob Allen came down twice from Bendigo, first to speak on spiders and later on insects. John Landy, our very first guest speaker, came back eleven years later to share with us his wide knowledge of butterflies, and Dr. Malcolm Calder had us fascinated with the unlikely subject of mistletoes. Helen Aston brought with her from the Herbarium a fine collection of pressed aquatic plants, and Jack McCarthy's collection of aboriginal artefacts provided another outstanding specimen table. Tom Garnett made us really think what bird observing is all about, and Roy Wheeler showed us how to go about seeing as many species as possible in one year.

We must not forget the talks from our own members who always amaze with their knowledge of natural history and their talent as photographers; Trevor Pescott on the Otways, Dr. John Agar on Western Australian wildflowers, Frances Poole with her wonderful orchid pictures, Stan Rowe talking about fossils, Ted Errey and Gordon McCarthy with adventures in the outback, Ian Woodland with movies of The Galapagos Island or the flanks of Mount Everest, and many others. Often our members have been asked to "fill in" at short notice and always they have come up with a professional programme.

Question nights, when a panel of speakers answered a variety of queries from members, have proved popular, as were the double projector evenings when two aspects of the same subject could be viewed at once.

Meeting nights have always ended with a "Specimen Table", so that members can bring along objects for identification and display. Some unusual items, sometimes very much alive, have been seen from time to time. On many an occasion the mainstay for providing specimens has been Ted Errey who has educated us in various aspects of botany, ranging from varieties of banksia or pea-like flowers to the weeds in his garden. Stan Rowe has often shown us geological specimens from Deakin University's collection. Birds' nests of various kinds and insects, spiders and the like have also been popular items, and sometimes have been sent to the National Museum for positive identification.

Observations from members have always been welcome at general meetings and some interesting facts have come to light in this way. Most observations have had to do with bird sightings and behaviour. One seemingly ordinary observation has often set off a train of others until quite a varied picture of bird movements in the area has been built up. Queries about such things as mistletoe, grasstree dieback and longevity, and meat ants have given rise to investigation and research by other Club members.

Excursions

Only once has a Club excursion been cancelled because of the weather. This says much for members' fortitude and enthusiasm, but also gives an indication of the popularity of the monthly field trips, which have taken us far and wide, although there are several areas which we have visited regularly. These include the Otways, Brisbane Ranges and the Bellarine Peninsula. In the very early days Sherbrooke Forest was a favourite venue, but in more recent years we have tended to visit places close to home, and areas often little known to the general public.

Bus trips, once very popular, have given way more and more to travel by private car, perhaps because of increased cost and a changing, more mobile membership.

Plant and bird lists have generally been made on these outings and sometimes unusual sightings and rare finds have been made. The sight of 5000 Banded Stilts on Lake Beeac on an excursion in 1972 was one such memorable occasion.

Weekend Trips

In response to a need to investigate a particular area in detail, and perhaps also to allow more social interaction between members, weekend camps were organised and have since become part of Club life. The first Club weekend was in 1965 when a large party stayed at Rocklands, Balmoral, in the Grampians.

Today there are several campouts scheduled each year, of which at least one is under cover, that is, a group booking is made at a guest house or environmental centre and camping is relatively civilised. The other campouts are more informal outdoor camps, with members providing their own accommodation.

Long weekends have provided the opportunity for extended camps. The Australia Day weekend in January has traditionally been the time to stay on Mud Islands for the banding of White-faced Storm Petrels, an outing first organised by the Victorian Ornithological Research Group and latterly by our Club. An alpine weekend, with accommodation in a ski lodge, the most popular venue being Mt. Baw Baw, has offered an alternative for the less hardy. Mutton Bird banding at Port Fairy on the Anzac weekend has been another tradition.

In 1979 a new venture took place. Twenty one people went to Flinders Island by plane, and the following year a group went to King Island. Both weekends were particularly enjoyable. Perhaps we should be looking at more of these organised trips.

Specialist groups within the Club have also held weekend campouts. The Otway Survey Group regularly camped in the ranges, gathering field data, and the Bird Study Group has spent weekends at Princetown and at Linton.

Weekend trips provide an excellent opportunity for members to get to know one another, and also to collect information about various aspects of the natural history of an area. Mammal observation at night is an added bonus, especially when unusual sightings are made, such as the Leadbeater's Possum at Baw Baw in 1973.

Juniors

A special program is provided for the young people of the Club. Junior meetings are held before the general meeting each month, and there have been special excursions and competitions to encourage junior participation. Nowadays Junior meetings tend to include more practical work, such as the identification of pond creatures, and at present we have a small but very keen group. Ian Woodland, backed by Edna Yeoman, looked after the Juniors for many years, and the group is now in the capable hands of Dave and Betty King.

For a short time there was also an Intermediate Group, catering for a slightly older age bracket, but pressure of studies among its members caused it to disband.

Other groups have included the Otway Survey Group or the Mammal Group.

Special Interest Groups

Members with like interests come together regularly to study their particular subject in greater depth, and in some cases this has led to the establishment of formal study groups.

In 1973 Ted Errey organised a short course on botany theory and plant identification, and the Botany Group came into existence. Since then plant lists have been drawn up for areas such as the Inverleigh Common, collections of mounted specimens have been made and several series of classes have been held.

The Bird Study Group did not begin formal meetings until 1979, but since then, under the leadership of Trevor Pescott, the group has grown and its enthusiastic members have one meeting and one excursion each month.

Conservation Activities

The Club's activities have gradually broadened, and today a large part of our work is in active conservation measures.

Although we were always interested in conservation and gave support to various projects, the setting up of the Land Conservation Council in 1972 and the dividing up of Victoria into zones for the survey of the use of Crown Land meant that the Club became very involved in preparing submissions on land use. The early field studies of the Otway Survey Group which had built up a body of information on the natural history of the Otway Ranges, and the expertise and knowledge of various members, meant that we could make a valuable contribution to the various Reports, more particularly to the Melbourne and Corangamite Study Areas, We published our submissions. on these areas, and also commented on proposals for other areas, particularly in the west of the State. When the Proposed Recommendations for the various areas were published, we again commented on the uses suggested and have since followed up with letters both to the Land

Conservation Council and to the government. Some members, notably Trevor Pescott, Jack Wheeler, Ted Errey and Dave King, did a tremendous amount of work in this regard.

We have constantly been involved in the saving of other, smaller, areas with natural history value, especially in the Geelong region. For instance, when the Ironbark Basin was threatened by gypsum mining in 1972, a telegram was sent to the Minister for Lands, which caused considerable turmoil in government circles, and the eventual abandonment of the mining proposal.

Numerous letters have been written over the past ten years to government departments, local councils and bodies of management, asking for information about projects, stating our concern at the destruction of habitat, urging the preservation of areas of ecological importance, and generally acting as watchdog for the natural environment in the Geelong region.

We have given evidence before such bodies as the Town Planning Appeals Tribunal and the Geelong Regional Commission, notably in the case of clearing land at Urquharts Bluff and the siting of the I.C.I. petrochemical complex at Point Wilson, and the evidence we have submitted has always been considered with respect.

We have also helped various outside bodies with information and advice, working with Alcoa about the foreshore at Point Henry, with the Shire of Bellarine about Lake Victoria and Freshwater Lake, with the City of Newtown about Balyang Sanctuary, with Deakin University on a survey of Swan Bay, to mention but a few examples.

We have taken part in surveys such as the Bird Observers Club Challenge Bird Count, a regular event since 1969. Two Geelong parties count birds from dawn till dusk, one group being centred on the Bellarine Peninsula and the other in the Brisbane Ranges – You Yangs area. The Botany Group has made plant collections for the Brisbane Ranges National Park and assisted Cliff Beauglehole in his Victoria-wide botanical surveys.

In 1978 the Fisheries and Wildlife Division started a survey of the numbers, wintering grounds and behaviour of the Orange-bellied Parrot, and this eventually led to members of the Geelong Field Naturalists Club making a monthly survey from April to November of saltmarsh areas on the Bellarine Peninsula. We were able to help establish the fact that some 25 to 30 Orange-bellied Parrots winter in the area, mostly on the south-west corner of Swan Island, and we provided data on the feeding behaviour and preferences of one of Australia's rarest birds.

We have carried out several conservation projects of our own. For several years pine seedlings were cleared experimentally from a plot of native bushland behind Anglesea which the Forests Commission designated to us for this purpose, at our request. We can be proud that the Belmont Common Wildlife Reserve came into being largely through our efforts. We rent this wonderful swamp from the managing body, and help maintain it, and improve the bird habitat by the careful planting of native trees. Our most intensive effort, spanning more than fifteen years, has been at the You Yangs. During that time we have spent an estimated 6000 man hours pulling boneseed and planting 6500 trees, and have transformed a once badly infested boneseed wilderness into a attractive parklike area.

Where possible we maintain contact with groups of like interest, and the Club is affiliated with many other field naturalists clubs and conservation bodies. Some of our members regularly attend campouts organised by the Western Victoria Field Naturalists Clubs Association and the Victorian Field Naturalists Clubs Association and some have served on the executive of these bodies. The Club is also represented on the Committee of Management of the Anglesea Wildflower Reserve, the Ocean Grove Nature Reserve and the You Yangs Forest Park.

We still have plenty of work to do in the conservation field; the Otways are constantly under threat, the coastline must be protected, roadsides and remnant blocks of native vegetation must not be degraded, the many lakes in the area and the Barwon River need special surveillance. Our study groups may need to make special surveys of endangered areas. We need to improve our documentation on excursions and campouts, so that the observations we make can be used in the most effective manner. In this way our primary aim of preserving and protecting flora and fauna will be best achieved.

Work with the Community at Large

In the past ten years we have held two more successful nature shows in conjunction with the Society for Growling Plants. The last one happened to coincide with an electricity strike. Undeterred we set up generators and went ahead. A constant stream of visitors, particularly schoolchildren, visited the show over the next three days.

We have provided displays on natural history for many organisations and events around Geelong, notably hobbies exhibitions and World Environment Day Exhibitions in the City Mall with the Geelong Environment Council. We co-operated with the Native Plants Preservation Society of Victoria in its screening of Photoflora in Geelong every second year.

We provided the prizes, and Trevor Pescott acted as judge, in the natural history section of the Schools Photographic Competition.

Members have always been available to speak about natural history and the work of the Club to school, scout and other groups, and have often acted as guides on excursions, and given advice on plantings to attract birds, and similar subjects. We have drawn up plant lists for the school camp at Bambra, for instance.

We act as publisher for Jack Wheeler for his booklet, "The Care of Sick Injured and Orphaned Native Birds and Animals". So far more than 26,000 copies of this booklet have been distributed free around Australia.

In 1981, the International Year of Disabled Persons, we held a birdwatching excursion for the disabled at the Belmont Common swamp. The morning was a great success, thoroughly enjoyed by all. We provided a brochure on the Common and its birds, binoculars, telescopes, and individual attention to our guests, some of whom were in wheelchairs and some accompanied by their guide dogs. The blind people, through their perceptive questions gave us a whole new insight into birdwatching. The event made us realise that we can, and must, do much more to integrate interested disabled people into our activities.

We find that there is a great interest in natural history in the community and try to reach as many people as possible. We have produced an attractive publicity leaflet which is widely distributed, and our activities are reported in the Community Education Supplements of the Geelong Advertiser. Visitors are welcome at all our meetings and excursions.

Financial and Other Matters

At present we have 315 membership units, representing about 500 people. Attendance at monthly meetings range from 75 to 100, sometimes more. Numbers taking part in excursions varies widely, from 10 to 30 carloads. Twenty people would be the average attendance at a campout.

Compared to many other organisations our subscription rates are very low. We do not claim to be a profit making organisation, and we often sail very close to the wind, and have relied on money from other sources to get us through. Generous donations from members have allowed us to purchase more expensive items of equipment, such as a telescope and binocular microscope, and to upgrade our amplifying system. We like to have as professional an approach as possible, especially when dealing with government departments, therefore such things as printed letterheads are important. We also regard services to members as a primary function of the club, so the newsletter, magazine and new library books are all regarded as essential, though costly items, and must be budgeted for. In all our years of operation we have never had a debit balance on our books.

The first Club fete was held in 1973 to raise money for the Ocean Grove Nature Reserve Appeal. A profit of $209 was made. It was held in the garden of Mrs. Beryl Campbell, one of our staunchest members, and organised by Jack Wheeler. Since then we have held a fete nearly every year to augment funds and provide us with those "extras", such as storage cupboards, that add to the efficient running of the club. A total of more than $4000 has been raised in this way. To provide sufficient goods for the work stall, a band of volunteers, headed by Lily Sherwood, has made items throughout the year and stocked the trading table at general meetings.

Life Members

In 1975 provision for Life Membership was written into the Club constitution, and in December John Russell Wheeler was elected the Club's first Life Member. This was in recognition of his work as President for eight years, and as Vice-President, Treasurer, Excursion Secretary and Excursion Sheet Editor, and for his work in conservation, principally in the establishment of the Ocean Grove Nature Reserve.

In April 1980, on his retirement as Editor of the Geelong Naturalist, a position he had held since January 1965, Life Membership was conferred on the founder of the Club and its Foundation President, Trevor Pescott. Trevor has always been one of the driving forces behind Club activities, and is an expert naturalist and photographer. He has often been our spokesman on conservation matters. It is most fitting that he should again be our President in our twenty-first birthday year.

Ted Errey was made a Life Member of the Club in 1981 after fourteen years' service on the Committee where he held various offices, including that of President. Working quietly in the background he had set up the Botany Group, which under his capable leadership, has collected a wealth of botanical information about the Geelong region.

Valda Dedman, 69 North Valley Rd., Highton, 3216.

Conservation Issues on which the Geelong Field Naturalists Club has taken Action during the past 10 years

Land Conservation Council Reports

Detailed submissions for –
- Melbourne Study Area
- Corangamite Study Area
- Ballarat Study Area
- SW Area, District 2

Recommendations for land use
- Alpine Study Area
- North-eastern Study Area

General Issues

Acacia armata
Brittle Greenhoods, Lara railway siding
Boneseed
Bull Mallee at Coimadai
Clearing under power lines
Control burning
Corellas and cockatoos
Destruction of dolphins
Dogs on island at Port Fairy
Effects on environment of some RED schemes
Forestry practices
Grant to conservation bodies
Indiscriminate spraying of forest areas
Import of wildflower seeds
Japan – Australia Migratory Birds Treaty
Kangaroo exports
Land Use Policy (Senate) – detailed submission
Logging in national parks
Logging in water catchments
Mallards at Balyang
Netting of finches
Oiled seabirds – practical help and Serendip
Penalties for shooting wildlife

Pines in public land containing native forest
Pine seedlings in native forest – eradication
Planting of native trees by local councils
Poison Lucijet
Preservation of roadside vegetation
Rainforest
Removal of treeferns from Otways
Schoolchildren and conservation
Spring traps
Tipping on low-lying land
Trail bike riding
Urban Creeks Policy
Use of native grasses in dune reclamation
Wedgetailed eagle in captivity
Whaling
Woodchipping, East Gippsland
Woodchipping, Otways

Places:

Angahook
    – acquisition of extra land recommended
Anglesea
    – dwarf melaleucas inspected, preservation recommended
    – peat area inspected, opposition to any alteration
Balyang Sanctuary
    – advice on establishment
    – concern at presence of mallards
Bambra
    – plant lists made for school camp
Barwon River
    – concern at damage from waterskiing
    – maintenance of Stan Lewis Track urged
    – suggest continuation of walking track at Marnock Vale
Belcher's Bushland
    – boneseed pulling
    – discussion on preservation with Geelong Regional Commission, Ministry for Conservation
Belmont Common
    – swamp preserved, maintained
    – opposition to proposed rowing course

Blue Waters Lagoon, Ocean Grove
  - advice on management

Brisbane Ranges
  - acquisition of extra land urged
  - plant lists made

Coastal areas – preservation urged:-
  - foreshore between Queenscliff and Ocean Grove
  - N. Side Ocean Rd., Hutt Gully area
  - Point Addis
  - Urquharts Bluff

Drake's Road Reserve
  - management advice given

East Gippsland
  - opposition to woodchipping

Floating Islands Lake
  - urge acquisition extra land

Fort Island
  - inspection and report

Freshwater Lake and Lake Victoria
  - survey for Bellarine Shire

Genoa
  - support for concept of National Park

Grass Tree Park
  - advice on management, surveys made

Gum Flat
  - concern at removal of gravel
  - concern at possible damage by proposed rifle range

Hovell's Creek-Limeburners Lagoon
  - opposition to marina proposal
  - preservation of mangroves commended

Hutchinson's bush block
  - submission supporting acquisition by G.R.P.A.

Inverleigh and Bannockburn Commons
  - survey
  - objection to golf course
  - investigation of soil extraction
  - concern at state of red and manna gums
  - urge acquisition of land necessary for gazettal

Ironbark Basin
  - concern ironbark cutting, camping
  - telegram to Minister for Lands re gypsum mining
  - concern at ironbark cutting, camping

Lady Julia Percy Island
  - concern at increase in big game fishing

Lake Colac and Lough Calvert
  - attend meeting when scheme explained
  - concern at salt slug in Barwon River

Lake Connewarre
  - objections to rezoning land, north side

Lake Murtnagurt
  - case for preservation prepared

Lake Natimuk
  - confer with local group on its future

Lake Pedder
  - urge preservation

Maryborough forests
  - support for Maryborough F.N.C. submission

Montpellier Park
  - support reservation

Moorabool River diversion
  - submission prepared

Mount Cole
  - submission prepared and published, presented to Minister of Forests

Mount Duneed
  - inspection, managment options suggested

Ocean Grove Nature Reserve
  - donation towards purchase of extra land
  - representation on committee of management

Otways
  - urge preservation
  - surveys of flora and fauna
  - opposition to logging in national parks
  - opposition to woodchipping
  - urge flora and fauna surveys be made

Pollocksford Reserve
  - opposition to extractive licence
  - letter pointing out value of native vegetation

Point Henry
  - concern at degradation of foreshore swamps by Alcoa
  - advice to Alcoa on foreshore plantings

Point Bellarine
  - concern that marina proposal will prevent gazettal of proposed flora and fauna reserve

Excursion to the Shelford Fossil Cliffs Early 1970's
Photo by Trevor Pescott

Ready to board for Flinders Island
Photo by Frances Poole

Geoff Mathison at Point Addis

Photo by Trevor Pescott

Dave King at the Otways

Photo by Trevor Pescott

Orange-Bellied Parrots

Photo by Trevor Pescott

Broad-Toothed Rat at Mt. Baw Baw

Photo by Gordon McCarthy

Tree Planting at the You Yangs about 15 years ago
Photo by Gordon McCarthy

G.F.N.C. Area at the You Yangs
Photo by Trevor Pescott

Point Wilson
– object to rezoning of land to industrial. Appear at hearing
Port Fairy
– concern at state of dune road
Port Phillip
– submission prepared for Port Phillip Authority
Portland
– objections to siting of Alcoa smelter
Queenscliff
– request input into siting of Marine Science Laboratory
Stingaree Bay
– inspection of proposed nature reserve behind ANAHL
– letter to Harbour Trust about future
Urquharts Bluff
– opposition to planning permit to allow grazing
– donation of $500 to A.C.F. appeal for purchase
– appear at Town Planning Appeals Tribunal
Wandana Reserve
– plan of planting prepared
Werribee and Little Rivers
– information collected for C.C.V. submission to E.P.A.
Western District Lakes
– submission prepared
You Yangs
– extensive boneseed eradication and tree planting programme
– represented on committee of management
– protection of Brittle Greenhood ensured
– help with survey for seed nursery
– mammal survey to be undertaken

Donations by the G.F.N.C. to outside appeals, 1971 – 1981

Ocean Grove Nature Reserve	$500+
Urquharts Bluff Appeal	$500
Cliff Beauglehole Fund	$100
Injured birds brochure	$100
Mt. Cole submission, printing	$50
Save the Franklin Fund	$25
Save the Whale Fund	$20
Barrier Reef Fund	$20
Quinkan National Park	$10
Save our Bushlands Action Committee	$10
School Science Talent Search	$10
Wildlife Fighting Fund	$10
Lake Pedder Action Committee	$5
Save this Colong Committee	$4

Schools Photographic Competition
– prizes

Calendar of Significant Events
1971 – 1982

1971 April	– G.F.N.C. host to W.V.F.N.C.A. in Geelong.
May	– Case prepared for the preservation of Lake Murtnagurt.
June	– Tapestry of butterfly emblem presented to the Club by Miss Ruth Marsh.
July	– Club becomes member of C.C.V.
August	– Fund started to help care for sick and injured animals. – $45 donation to publication of Mount Cole brochure.
September	– 3,500 people attended Nature Show organised by G.F.N.C. and S.G.A.P.
1972 January	– Pollution diorama erected for Mardi Gras in Davidson Hall.
February	– Newsletter to contain more news of Club activities. – Sub-committees formed to deal with L.C.C. submissions.
March	– New library cupboard purchased.
April	– Provision for Supporting Membership. Jack Wheeler retires after 8 years as President. – Telegram sent to Minister for Lands opposing proposed gypsum mine at Point Addis.
July	– Port Phillip submission prepared. – Letter to Vermin and Noxious Weeds Board re spread of boneseed.
November	– Lease of Belmont Common Swamp begins. – G.F.N.C. joins newly formed G.E.C.
December	– Half-day Junior excursion to O.G.N.R.
1973 January	– 2 Leadbeaters Possums recorded on Baw Baw excursion.

April	– Club holds first fete – Proceeds ($209) for O.G.N.R. Appeal. – Donation of $100 from Club funds for O.G.N.R. Appeal.
July	– 100 Redgums and 100 Melaleucas planted at Belmont Common Swamp.
August	– Family Membership. – Botany Study Group begins with short study course on Botany theory and Plant identification. – Permission sought from Forest Commission for G.F.N.C. to eradicate pines in native forest in Anglesea district.
September	– Trevor Pescott and Noel Young attend Port Phillip Seminar on behalf of Club. – Affiliation with newly-formed V.F.N.C.A. – Inverleigh Common bird and plant lists prepared by Jack Wheeler and Ted. Errey.
December	– Junior Projects.
1974 January	– Committee inspects Mt. Duneed Reserve.
April	– New lead for projector bought. – Botany Group examine site for proposed seed garden at You Yangs.
June	– Submission to L.C.C. on Melbourne Study Area printed.
1975 March	– Host to V.F.N.C.A. – Club participates in Open Day at Belmont Common.
April	– Constitution amended – Presidency to be a 2 year period. Provision for Life Member.
July	– Board at Belmont Common Swamp erected: "Belmont Common Wildlife Reserve – G.F.N.C." – New format for Newsletter. – First pine eradication working-bee in area allotted to Club for experimentation.
December	– Junior displays. – Inspection of swamps near Alcoa at Pt. Henry
1976 February	– Club agrees to publish brochure by Jack Wheeler on Treatment of Sick and Injured Birds and Animals.

April	– Letter drafted for members to send to Federal Members urging them to support the concept of the National Heritage. – $100 donated to J.R. Wheeler Brochure.
May	– $10 donated to Save our Bushland Action Committee.
June	– Library recatalogued and reorganised. – Letter to Forest Commission asking to fence *Pterostylis truncata* at You Yangs.
July	– Opposition for Marina proposal at Limeburners Lagoon.
September	– Telegram sent to Prime Minister and Minister for Conservation calling for reinstatement of direct grants to conservation organisations.
1977 March	– Gordon McCarthy retired after 11 years as Secretary. – Take part in Expo 77 at Belmont Common.
September	– GFNC has first official representative on You Yangs Committee.
October	– Third Nature Show with S.G.A.P. Success in spite of electricity strike.
November	– Jack Wheeler presented with Natural History Medallion. – Printing of Submission on L.C.C. Corangamite Study Area.
1978 February	– Special Committee meeting to discuss finances and Club administration.
March	– Botany Group classes begin again.
May	– Magazine in new (letterpress) format. – Objection lodged with G.R.C. re rezoning land for I.C.I. at Pt. Wilson from rural to industrial, main objection being effect on bird-life.
April	– Committee enlarged, reconstituted. – Committee meetings held at Belmont Primary School.
May	– Trading table at monthly meetings begins. – Bird-atlassing Group begins – forerunner of Bird Study Group.

June – Library loan system reorganised. Filing cabinets donated to house Club records.

July – Beginning of Orange-bellied Parrot survey with Fisheries and Wildlife Division.
– $186 received from South Barwon Recreation Vouchers.

October – Minutes to be distributed to Committee Members.

1978 November – Wildflower posters from Juniors on display at General Meeting.
– Mt. Beckworth excursion cancelled because of heavy rain. First time a scheduled excursion not held.

1979 January – First Plane excursion – to Flinders Island.

March – Intermediate Group formed. First excursion – a walk down the Barwon River.

April – Bird Study Group commences with 2 meetings in 1 month.
– General Meetings move to St. David's Hall.

July – Death of Cliff. Tingate member of original G.F.N.C. and present Club.

November – Club donates prizes and provides judge for Children's Film Festival.
– Management statement prepared for management of Inverleigh and Bannockburn Commons.
– Barrier Reef petition circulated for signatures.

1980 January – Plane excursion to King Island

February – Members write letters to Minister for Conservation about degradation of Otways.
– New amplifying system used for first time.
– 3 steel lock-up storage cupboards purchased with money from ladies' stall.

March – Prepared display with G.E.C. for National Heritage Exhibition.

April – Life membership conferred on Trevor Pescott

July	– Bird Study Group undertakes Gang Gang survey. – Slide library to be set up.
September	– Post Office Box obtained at Geelong P.O.
November	– Publicity brochure produced.
1981 January	– Meeting held with G.R.C. re future of Belcher's bushland.
May	– Telescope purchased with money donated to club.
July	– Club donates $500 to Urquhart's Bluff appeal organised by A.C.F. – Life membership conferred on Ted Errey. – Trap and Release permit obtained for mammal survey work.
August	– Excursion report sheets drawn up for use by leaders in documentation.
September	– Binocular microscope purchased with money donated to club.
October	– Disabled Persons' Birdwatch at Belmont Common.
1982 February	– Mammal traps purchased with grant from Ingram Trust.
March	– Subscription Renewal Form produced. – 21st Birthday dinner
April	– 21st Birthday barbecue. – Special birthday edition of Geelong Naturalist.

Committee Members 1971 – 1982

Rolf Baldwin (1962 – 82)

Les Barrow (1980 – 82)

Grant Baverstock (1981 – 82)

John Bowden-Perry (1980 – 82)
Excursion Secretary 1980 – 82

Margaret Cameron
Editor – Naturalist 1980 – 82

Geoff Carr (1970 – 73)

Lawrie Conole (1980 – 82)
Editor – Newsletter 1981 – 82

Ron Creed (1981 – 82)

Valda Dedman (1973 – 82)
Vice-President 1981 – 82
Secretary 1978 – 82
Treasurer 1974 – 77

John Ealey (1978 – 81)
Treasurer 1978 – 81

Ted Errey (1967 – 81)
President 1975 – 77
Treasurer 1971 – 72
Editor – Newsletter 1980 – 81

Geoff Gayner (1963 – 82)
Librarian 1971 – 78

Jean Hoggart
Auditor 1971 – 82

John Hunt (1962 – 75)
President 1972 – 75
Vice-President 1971 – 72

John James –
Subscriptions Secretary 1972 – 75

David King (1975 – 82)
  President 1979 – 81
  Vice-President 1978 – 79

Gordon McCarthy (1963 – 82)
  Vice-President 1980 – 82
  Secretary 1966 – 77
  Assistant Secretary 1978 – 80

Geoff Mathison (1975 – 81)
  President 1977 – 79

Craig Morley (1981 – 82)

Trevor Pescott (1961 – 82)
  President 1981 – 82
  Vice-President 1972 – 75, 1979 – 80
  Editor – Naturalist 1971 – 80
  Editor – Newsletter 1971 – 80

Frances Poole (1966 – 76)
  Vice President 1972
  Excursion Secretary 1971 – 76
  Librarian 1971

Norm Povey (1977 – 80)

Diana Primrose (1980 – 82)
  Treasurer 1981 – 82

Betty Quirk (1968 – 82)
  Assistant Treasurer 1970 – 82
  Excursion Secretary 1976 – 77

Leila Ramsay (1976 – 78)
  Excursion Secretary 1977 – 78
  Librarian 1979 – 82

Ivan Tilbury (1979 – 80)

Graeme Tribe (1977 – 82)
  Excursion Secretary 1978 – 79

Jack Wheeler (1961 – 80)
  President 1971 – 72
  Vice-President 1975 – 76, 1977 – 79
  Treasurer 1972 – 74
  Excursion Secretary 1970, 1979 – 80

Treasurer 1972 – 74
Excursion Secretary 1970, 1979 – 80

Jack Whitmore (1965 – 75)
Vice-President 1971
Librarian 1971 – 75

Ian Woodland (1964 – 79)
Vice-President 1974 – 75
Librarian 1971

Note: Committee members or office bearers holding office to 1982 may be re-elected in April 1982.

Representation on Reserve Management Bodies

The Geelong F.N.C. is officially represented on the Committees of Management of three major reserves in this region; the Ocean Grove Nature Reserve has Jack Wheeler and Trevor Pescott, the You Yangs Regional Park has Valda Dedman, and the Anglesea Native Flora Reserve has Ted Errey and Geoff Mathison.

At the O.G.N.R., recent developments include a waterfowl habitat (named in honor of Jack Wheeler), a 'hospital' building constructed by the Drysdale Rotary Club, and the committee is currently revising much of its management structure.

The You Yangs Park has recently been enlarged to include all of the public land where previously only about one quarter was under committee control; bonesseed eradication remains the highest priority, but improvements to the walking tracks and water supply are under constant review. A new nature trail at Big Rock and a Robert Brown arboretum are two projects in hand.

At Anglesea, the committee has a watchdog role – and a most important one it is too; the reserve is adjacent to the Scout Camp, close to the coastal cliffs, and it is always under threat from external forces.

Apart from these three, there are many other areas which receive direct benefit from the knowledge and experience of other Club members without the Club being officially represented on management bodies.

Botany Study Group

Ted Errey

The need for systematic group study in the natural history field was frequently discussed during our Otway camp-outs, seven or eight of which took place in 1970. During these week-ends, mammal, bird and plant surveys were made in various areas. Difficulties with species identification, particularly in the botanical sphere, made it quite plain that a certain amount of homework would cut down the time lost in establishing the identity of many of the plants we found. This concerned not only the botanical members of the camping parties, for mammal surveys too, require the names of plants where various phascogales, native rats etc. are found.

The question was discussed at club committee meetings, but some members felt it would not be in the best interest of the club to introduce sectional groups. However, the need was there, and Francie Poole, Ian Woodland and I decided to make a beginning. Five other club members joined us for our first study evening in September 1973. They were Mary Brownhill (now Mrs Ealey), Elsie Poole, Betty Quirk, Leila Ramsay and Edna Yeoman. The group met at private homes, often after a day in the field collecting specimens of certain plant families for the evening's study.

As the number in the group increased (reaching nearly 30 in 1980 when a number of Colac botanists joined us) a room at Belmont Primary School was used. Winter terms are usually avoided but autumn and spring terms are particularly busy. Much listing and collecting has been done in the Brisbane Ranges. The total of species collected and pressed from there is now over 400.

Other bush areas where listing is done include nearer sections of the Otways, the Ocean Grove Nature Reserve, Inverleigh Common and Bannockburn. Herbarium collections are being built up for O.G.N.R., Inverleigh Common and Bambra Schools block. Members have also listed and collected in various areas for Cliff Beauglehole, to assist in his reports on the Land Conservation Council Study Areas of Corangamite and Melbourne. Reference plant lists for each bushland area in the district are being compiled, including fern lists for particular places such as Mait's Rest, Melba Gully, Grey River and Cumberland River.

E.G. Errey, 3 Leonard St., Belmont, 3216.

Bird Study Group

Lily and Bob Sherwood

The Bird Study Group of the Geelong Field Naturalists Club was formed in 1979 by Trevor Pescott in response to overtures from several members who felt that the knowledge of ornithologists in the club could be passed on to others with advantage.

Normally each month there has been a meeting and a field trip, a weekend at the Bird Observers, varying from club property Clarkesdale at Linton, to Sherbrooke for a good view of lyrebirds, to as unlikely a choice as the aviary at Melbourne Zoo – much more interesting than many members expected.

Abnormal and lucky sightings have been a brown-headed honeyeater plucking fur from a live koala, presumably for nesting material, and recently a nankeen night heron making a meal of a fair-sized eel.

The annual challenge bird count is usually the December field trip and although the day is a long one, the birds seen are deemed well worth the early start and late finish.

The counting of orange-bellied parrots has been among the group activities and some excellent sightings have been made.

Water bird surveys have also been among the group's activities and of course all these things have helped in the member's identification techniques.

An interesting morning was spent last spring when members met a party of disabled persons at Belmont Common to point out various birds and features of the swamp there. This was voted a great success and many of the guests felt a new field of endeavour had been opened to them.

The group under Margaret Cameron was host to a BOC trip to Ocean Grove and Point Edwards.

Speakers at monthly meetings have been many and varied inlcuding most interesting evenings with Jack Wheeler on gannets and boobies, Eric Bound on Mallee Fowl and on Groote Eylandt, Gordon McCarthy on thornbills and similar birds; a talk together with Trevor on the hazards of bird photography, and on bower birds and the plains wanderer. Geoff Gaynor has spoken on birds of prey and shown early movies and slides on the flame robin in the You Yangs area. Several evenings have been ably filled with slides and talks by Trevor, Margaret Cameron and Laurie Conole.

Guest speakers have included Don White from Serendip several times, Peter Dann on various wader study projects, Geoff Cartwright, a gamebird shooter, who spoke on waterfowl at Peter Scott's sancutuary in England, Andrew Isles on the ground parrot survey, David Baker-Gabb on the study of the marsh harrier at Werribee and Reedy Lake, Bill Flentje from Bendigo with a talk on birdsong recording techniques with numerous expamles, Frank Harrap from Ballarat spoke on the Mallee Fowl, Julie Strudwick on cannon netting and a trip to the Barkly Tableland, and Evan Thomas on birds on his property and in the general Barham district of New South Wales and the Wakool Irrigation Area.

Lily and Bob Sherwood, 270 Roslyn Road, Highton, 3216.

The Small Ant Blue Butterfly

Craig Morley

The Small Ant Blue Butterfly *(Pseudodipsas myrmecophila,)* belongs to the hycaenidae family which comprises a group of small, delicate, rapid flying and often brightly coloured butterflies, which make up almost one-third of the known species of the order Lepidoptera.

The first specimen of this butterfly, which is the emblem of the Geelong Field Naturalists Club, was found at Ocean Grove in 1912 by entomologist G.A. Waterhouse. The only known Victorian population is to be found at the Ocean Grove Nature Reserve. Other populations are known from an area south of Brisbane and a small area around Sydney.

The larvae (caterpillars) of the Small Ant Blue Butterfly – as in the case with most of the hycaenids – are associated with ants.

At the Ocean Grove Nature Reserve the eggs are laid in batches of up to 40 or 50 on dead stumps of Golden Wattle *(Acacia pycnantha)* which contain colonies of a small black ant, *Iridomyrmex nitidus.*

The larvae feed for a time then form the pupae which are attached to the walls of the ant galleries in eights or tens or in cracks in dead stumps in smaller numbers. Ants have been observed running over freshly emerged adults without disturbing them.

The following two extracts shed some light on the possible association between the butterfly and the ant.

"Near the surface of a crack in one of the stumps brought from Ocean Grove was a single pupa: this stump we exposed to the sun and the pupa was placed close to the glass of the breeding cage: within a very few minutes the ants had sheltered it from the heat and light by filling the crack above it with a layer of rubbish." (Waterhouse and Lyell 1913)

"Little is known about the feeding behaviour of the larvae but, from the following very interesting observations . . . , they are predators of the ant larvae and pupae. *P. myrmecophila* were introduced to a captive ant colony containing ant larvae and pupae. There was no evidence that the ants fed the butterfly larvae but, by the time the latter pupated, the ants had heaped up many collapsed ant pupae. At one stage when ant larvae and pupae were in short supply the butterfly larvae were given slices of apple. There was no sign of feeding on the apple, although the larvae made small hollows from which they apparently sucked the apple juice. This and the collapsed ant pupae suggest that the butterfly larvae feed by sucking fluids from their prey." (Common and Waterhouse 1972)

There is still a great deal to be learnt about the association between butterflies and ants. As Waterhouse and Common remark a lot could be learnt about the life history of the Small Ant Blue Butterfly from observation in artificial ant colonies.

Borror, D.J. et al. *An Introduction to the Study of Insects.* Holt, Rinehart, and Winston, 1976.

Common, I.F.B. and Waterhouse, D.F. *Butterflies of Australia.* Angus and Robertson, 1972.

Waterhouse, G.A. and Lyell, G. (1913) Description of a new Lycaenid butterfly. *Victorian Naturalist,* 29 (10), 156-160.

Wheeler, J.A., ed. *Ocean Grove Nature Reserve Information Booklet.* 1978.

Craig Morley, 22 Fairmont Road, Newtown, 3220.

Recollections

Gordon McCarthy

The G.F.N.C. is different things to different people, providing diverse pleasurers and interests. To most members over the years, there must have been highlights during the various excursions and campouts, highlights which still give pleasure when brought to mind.

I was going to list items of importance recorded over the years, but what may seem important to me, may be quite commonplace to someone else, so I will jot down some pleasant recollections in the hope that they may jog other memories of pleasures shared.

Possibly the bulk of them were collected during those old Otway Survey Group campouts, to the Parker River, Calder River, Clearwater and Redwater Creek areas. Many of the finds were new and exciting to us in those days, but some stand out.

The beautiful white Correa growing at the base of the cliffs near the Parer River mouth was subsequentially identified as *correa backhousiana,* formerly found only in Tasmania.

The puff-ball fungi on shaggy stems, which blow off little operculum-like caps to show an orange cross-like mark, through which the spores are released, were nicknamed 'hot-cross bun fungi' as it was during an Easter camp that we found them.

On a beautiful sunny day, near the junction of the Clearwater-Redwater Creeks, we saw the rare Skirted Tree-ferns while close by I remember a Stonefly resting in the sun on a mossy log, multitudes of Silver Xenica butterflies, and blue and white prickly crayfish captured in the Clearwater Creek. Another find in the Parker River valley was a Satin Bowerbird's bower, tended by an immature male.

Across on the Elliot Track, beneath the banks where there were masses of glow-worms, we discovered a rare, many-legged, predatory Peripatus a species virtually unchanged for 550 million years. Another interesting species we found was the Ghost Shrimp or Phreatoicopsis.

It is always exciting to observe a bird not normally seen in the district. Two that come to mind were the Black-eared Cuckoo seen on a Staughton Vale campout, and a Black chinned Honeyeater seen during an excursion to Bannockburn.

During our Alpine campout to Mt. Baw Baw in 1973, we had several exciting finds, not the least of which was the spotlighting of a beautiful little Leadbeaters Possum and subsequent capture (with bitten hands) of a second possum. Members didn't mind being woken after midnight to view this little gem. A pleasant surprise the following morning in one of our mammal traps was a rare Broad-toothed Rat. This along with masses of trigger-plants, Alpine Greenhoods, Veined Sun-orchids, Mountain Gentians, etc, made for a most memorable weekend.

During another campout on the Carlisle heaths we saw what we first took to be a Sulphur-crested Cockatoo amongst a flock of Gang-gangs, but which turned out to be an off-white Gang-gang with a faint pink bars on its chest.

Even at monthly meetings we sometimes have rare specimens brought n by members. Unusual plants was a species of Solanum brought in by Mr. Boardman in August 1978; he had found two plants on the Moorabool river near Sheoaks. They had a silvery leaf and smaller fruit than the common Kangaroo Apple. Another was the Annual Fern, a relative of the maiden-hair and rare in Australia which had been found in a cave at Mt. Eccles.

These are just a few of the more memorable finds that come to mind, but you could go on and on with this, the enjoyment of the G.F.N.C.

G. McCarthy, 26 Fairbrae Ave., Belmont 3216.

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